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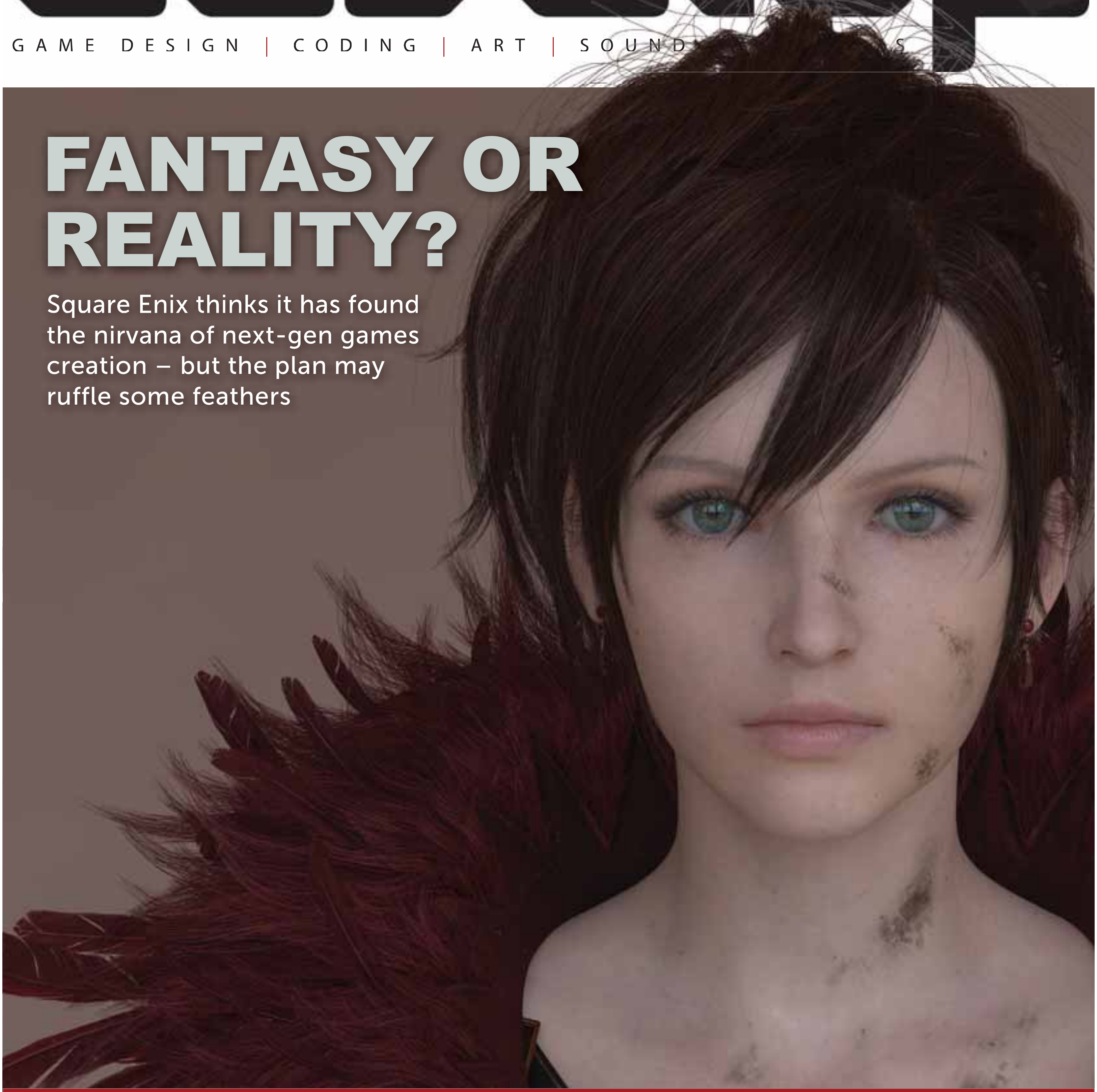

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Square Enix thinks it has found the nirvana of next-gen games creation – but the plan may ruffle some feathers

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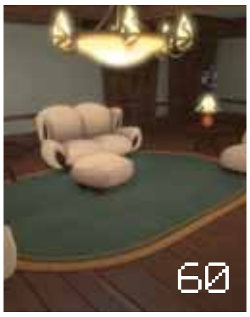

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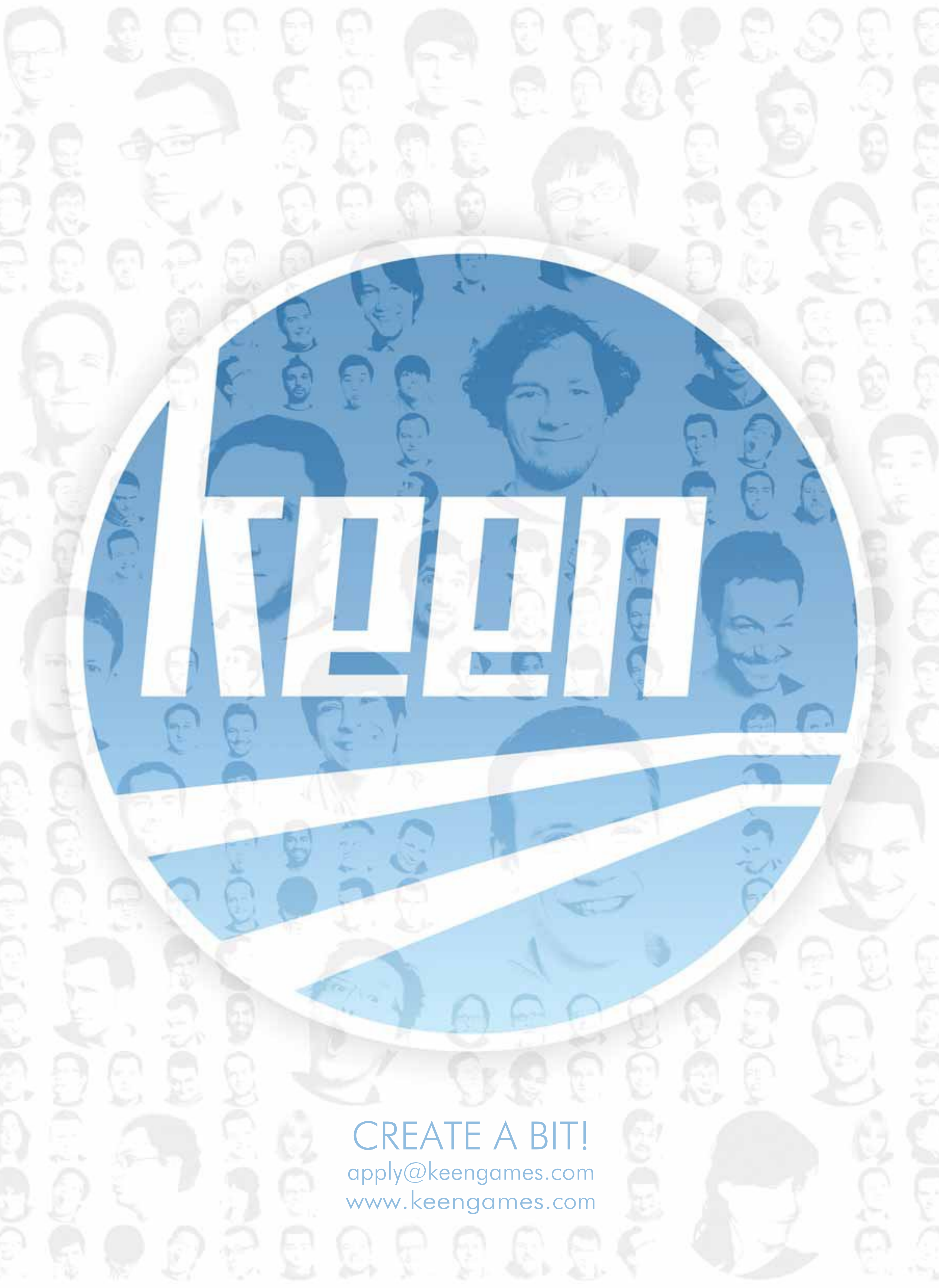

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ALPHA

ADVENTURES IN GAMES DEVELOPMENT: **NEWS, VIEWS & MORE**

Can games drop sexism? p11

After RuneScape

Andrew Gower co-created Jagex's iconic MMO. Now he and three colleagues are writing a new programming language at start-up Fen Research. Develop investigates, p06

Crowdfunding: Future or fad? p10

Get that contract p12

EDITORIAL

E3 AND THE IMPOSSIBLE

WITH E3 2012 now firmly behind us, it's time to reflect on the show.

Tune into the chatter of developers, Twitter-obsessed games journalists (guilty as charged) and our friend the consumer, and it's clear an atmosphere of disappointment prevails in the wake of our industry's annual cash-burning festival of marketing.

There were apparently not enough big game releases, underwhelming press conferences, and a distinct lack of PlayStation 4s and Xbox 720s. But what is the industry to do?

Could we really create enough games to fill not only E3, but the rest of the year with high profile announcements? And if we could, would being stretched so thinly really improve the medium? It seems the need to constantly shower the gaming public in news about new titles is reaching a critical mass. Push it much further and we might pass the same tipping point that saw the dawn of cable television thin the quality of TV production down to near evaporation. If more channels means less choice, maybe more press releases means less quality games.

Still, we've survived another year, and now the Develop Awards, Develop Conference, GDC Europe and Gamescom are almost upon us; events that celebrate the industry without demanding it wrings itself dry.

Team *Develop* will be at every one of those, and keen to meet up with you, so drop us a line. And, yes, we'll even accept the odd press release; because games, tools and services of course need exposure. That's to all our benefit.

And yet, when the industry has 'failed' because we can't bombard the planet with new releases 365 days a year, we are in serious trouble.

If you're lucky enough to make what you like in your own good time, stick to it. And if a publisher is breathing down your neck, consider a world where games matter more than news.

Will Freeman
will.freeman@intentmedia.co.uk

Will

What Gower did next

Since 2010 Jagex co-founder Andrew Gower has been toiling away on a new programming language, engine, and games. **Craig Chapple** asks the veteran why he left the MMO studio to set up Fen Research

What inspired you to found Fen Research?
It was because I had an idea that I really wanted to do, and I was really keen to do something new. So it sort of made sense to start up a new company to pursue that project. I had an idea for trying to solve a problem that I faced.

It was quite academic actually; I wanted to create a new programming language that's specifically designed from the ground up for creating games. That's as opposed to other types of languages, like ones that make web applications and ones for making drivers and operating systems.

There didn't seem to be a great deal specifically designed to solve the problems that games have. Games have a very unique set of challenges, particularly when doing online and network titles and that sort of thing. We found ourselves writing the same sort of thing over and over again. So we've come up with something quite different to existing programming languages.

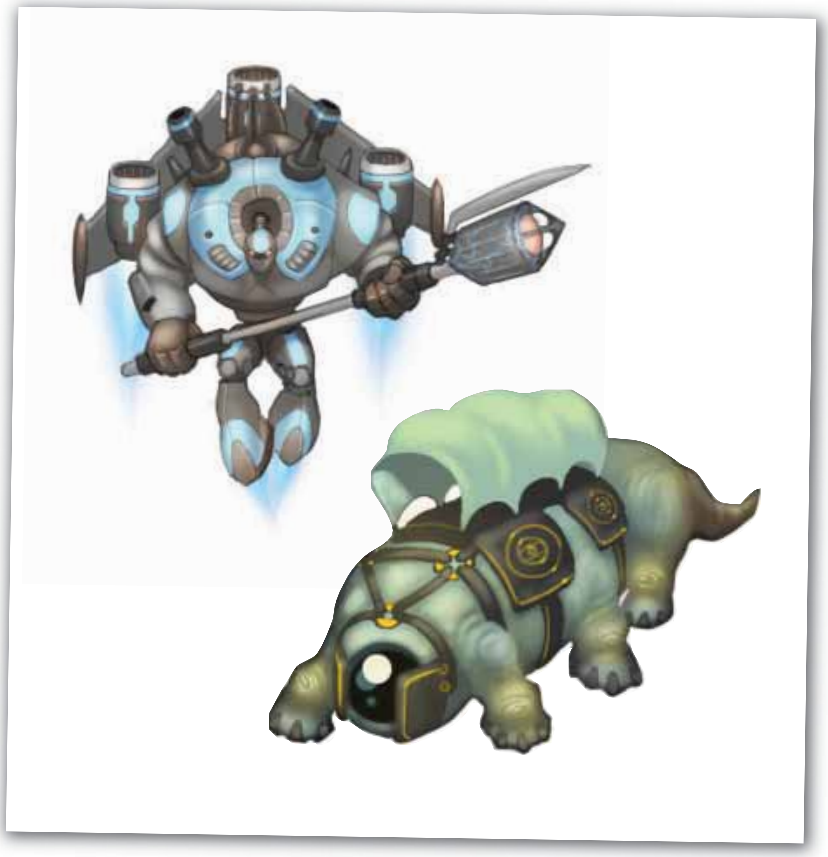
Existing programming languages tend to fall into the camp of either the procedural or the object orientated, or they're functional. Ours is quite radical.

So would you say there are problems with the current programming languages?
I wouldn't say there's a problem. They're actually very good as they've had a lot of years to mature. Some of them are extremely well refined. But I think that so much stuff is still written in C++ even though it is decades old.

I don't think that's by coincidence, and I don't think it's just because of the fact that people are sticking to what they know. For the games industry certainly, C++ remains the staple because for games, performance is so important, cross platform is important, and there's real-time concerns; you can't have your game stall for several seconds otherwise it goes off to the garbage collection.

I think a lot of these newer languages are very good for what they are designed for; but they are not particularly good for games. It seems to me like an up-to-date language which is suitable for games has been created for some time.

So how are you making your language more suitable for games?
For starters, we're trying to make sure it will port well to the platforms of games that it is



Andrew Gower (second from right; left image) and his Fen Research team, and art from one of their first, as yet unnamed in-house games

specifically targeting. We will make sure it will have real-time performance characteristics so that you won't get those little stalls; the ones that normally wouldn't matter to an application, but in a game jars the experience.

We're trying to make sure that it is also very good for writing network code, as games these days are increasingly online. Almost every game today caters to online play of some kind. We're really trying to design it so that it will solve a lot of problems in that area that are not easy to express in other languages.

Specifically, if you're writing a server for your game in C++ you can give yourself a massive headache in terms of ensuring if it is secure or not, or if someone is going to hack your server.

Is this going to be for all platforms?
We are aiming to target, if not all platforms, then certainly the key ones. But initially we are targeting Windows, Mac and iOS, and we would hope to expand from that. We're designing it in such a way that it wouldn't require any specific hardware or any specific capabilities, so it should be possible make it run on anything.

And you're making a games engine at the same time. Is that the same thing as the programming language?
What we're making is sort of halfway between a programming language and a game engine. I wouldn't say it was a game engine in the way that Unreal or Unity is, and I wouldn't also say it is just totally a programming language. It's some way in-between the two.

I think to be successful there are four things you've got to have. One of them is the language itself, which must be something new and must actually be worth using. You've also got to have a really good tool chain; a good development environment, with decent syntax highlighting and refracting and all those sort of things.

You've also got to have good documentation, and then you've got to have good examples of it actually being used. No one's going to want to use a language that hasn't been proven. Most studios or indie developers don't think 'I'm going to put all this massive budget on to this program that no one has ever used and might not actually work'.

It has to have a proof of concept, and the easiest way to do that is make some games ourselves to prove that it really can work. Making games with it ourselves is also very helpful in terms of ironing out any wrinkles with the language. A few of the things we found out when making a game, and we realised 'Oh, actually that bit didn't work quite as well as we thought.'

> ***"I wanted to create a new programming language that's specifically designed from the ground up for creating games."***
>
> Andrew Gower, Fen Research

The language has evolved rapidly over the last few months. It's a good thing we are the only ones using it. Really. If there was anyone else using it whilst it's in this stage of evolution they'd go mad at us for changing so much so often.

In terms of the games we're making, we're looking to make little test games that we can start with to prove it works. One is a turn-based strategy game, but very casual. Turn-based strategy can be a scary term, but what we're doing is very lightweight and casual.

It's just a simple game that's stat based; a quick game you can play on your lunch break, and is designed not to take a lot of time to play and you can have a bit of fun with the tactics you can use. It's got sort of quite casual balance between skill versus luck. On one hand, if you play it you will get better, but on the other hand if you go in, you won't get annihilated if you go against someone who's been playing it for the last six months.

And then we've got another game which we've not really got very far with yet, a sort of designer with lots of user generated content, with people being able to create their own environments.

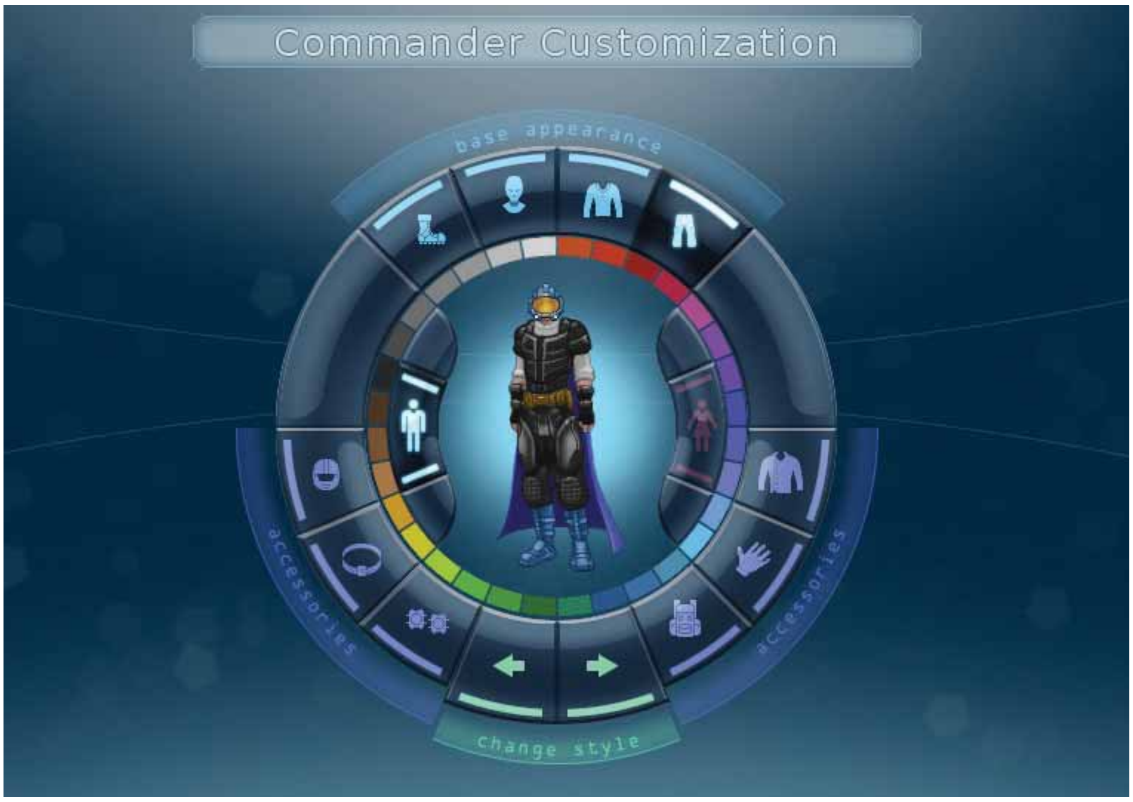
Is that the bigger game Fen Research has mentioned before?
Yes, that's a bigger game.

At the end of the day I like making games, and I'm not just making this programming language purely as an academic thing. I'm making it because I want to be able to make games more myself.

Obviously the intention is more about sharing the language and letting other people use our tools and middleware.

I – and other people – want to make games and not get bogged down by the things I've got bogged down by over the last ten years.

Is that why you felt the need to leave Jagex and start this up. Could you not have started it there?
I could have done, but it would have almost have been a distraction. It was very different from what Jagex was doing, which was focusing on MMOs. The danger of me doing it there would have been that it would have been on the sidelines and an annoying little distraction; 'Andrew's pet project' so to speak, as opposed to being a serious thing in its own right.



Fen Research's casual turn-based strategy game has been designed in part to showcase the outfit's programming language's development potential

And this technology, will you be selling it, or keeping it as a proprietary tech?
I intend on letting other developers use this. I think we'll probably have a number of licensing models. I'd offer this to smaller coders; hobbyist and indie coders. But also I want to offer this to studios and the sort of licensing models you'd need are worlds apart.

So it's not just Indies you'll be looking at?
We'll start off looking at indies because it's immediate. Big studios tend to have large support requirements. But ultimately once it has proved itself it can be used to develop just about anything.

How's Fen Research being funded, with you owning 90 per cent and Jagex owning ten per cent?
For the moment I'm funding it myself. I'm deliberately keeping it small and I'm working on a cautious basis, so it may take me quite some time to get this thing finished. I want to be able to keep funding it, and I don't want to run out of money, which is why I've kept it small.

What has it been like starting a new company? How would you compare it to founding Jagex?
I've really enjoyed it to be honest with you and I'm really happy that I did it. It's so exciting to be doing something new and innovative. OK, it might not work, but hopefully it will. Certainly it's really fun to try.

It's not been too challenging because obviously I know roughly what sort of things I'm going to face this time around. In that way it is much easier than when I started Jagex, which was a colossal challenge.

What advice would you give to new start-ups looking to break into games or middleware?
I would certainly say try and keep your costs down. I see a lot of iPhone games where they would have made a profit if only they hadn't spent so much making them.

Try and get people who are enthusiastic about what it is you are doing. You don't want to just get someone who's sees this as a nine-to-five job; those people who come in and they work but they have no enthusiasm. They've got to have passion in what they're making. Everyone's got to have a good time whilst they're doing it too. Within the games industry that does affect the final product.

Do you feel the UK is supportive of start-ups?
I haven't had a great deal of specific support. We get a slightly lower corporation tax, but that's irrelevant because we've not making any money as a start-up. I wouldn't say we've had a great deal of support.

That sounds like something you expected.
I don't really expect support I have to say. I'm not really sure that anyone really gets hand outs these days. It's up to me to make it work to be honest.

So, why did you leave Jagex?
I just wanted to continue this idea. We left on friendly terms and I really wanted to pursue it and focus my energy and see if I could make it work or not. It's been sitting in the back of my mind, half there for the last ten years, and I kept trying to come back to it, chipping away at it, and I couldn't quite solve it.

Eventually I sort of had a breakthrough and finally managed to sort out what I was trying to do, and did just that.

> ***"I see a lot of iPhone games where they would have made a profit if only they hadn't spent so much making them."***
>
> Andrew Gower, Fen Research

So it was about getting the right freedom?
Yes, and without the distraction of a massive project like *RuneScape* that demanded a lot of attention.

It was almost impossible to not get sucked into it working on that alone every waking hour because it's such a big project.

Obviously Jagex is behind *RuneScape*, and some say they're finding it hard to do anything else but *RuneScape*. Is that fair?
I can't really comment on that to be honest.

When do you expect to be releasing the engine and your first games?
I hope to be getting our first game out this year. It might be slip into next year as I'm a perfectionist about it. The engine itself will be further down the line, but I don't want to release that until it's ready. We don't want to have people start making games with it and then we realise we need to change everything, or it will start annoying people.

Also, people are going to judge this technology harshly. I know the initial reaction will be 'why on Earth do you need another engine, why are you reinventing the wheel?'.

So it's got to be just right; it needs to be self-apparent why it exists. It's ready when it's ready.

develop iPad | Videos are available within the free iPad Edition of **Develop** on iTunes and the free Browser-based Digital Edition, which can be accessed at **develop-online.net**

THIS MONTH: Square Enix's Luminous Studio engine **Chromativity's Adidas miCoach** Quantum Conundrum's Geomerics-powered lighting

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Games Media Awards step up for 2012

New categories ● Pure writing skills judged ● Thursday, October 18th ● Vinopolis ● Russell Kane signed as host

THE GAMES MEDIA AWARDS will return this autumn – with a new special category, judged by an award-winning journalist, recognising pure writing skills.

The Games Media Awards will this year take place on Thursday October 18th, and returns to the super chic Vinopolis, Bankside.

Gold Partners supporting the event include Xbox, *Need for Speed: Most Wanted*, PlayStation, Nintendo, Codemasters, *Metal Gear Rising Revenge* and OnLive. Meanwhile Deep Silver is Media Transport Partner, Gamescom is Event Partner, Green Man Gaming is sponsoring the Top Tweets Award and Precise is sponsoring the Coverage by a Mainstream Website award.

Comedian Russell Kane will be the host for the evening.

> ***We are looking to highlight excellence in games journalism.***
>
> Lisa Carter, MCV

GAMES MEDIA AWARDS 2012: THE CATEGORIES

- Games Magazine
- Games Website
- Specialist Writer – Print
- Specialist Writer – Online
- National Newspaper – Writer
- Mainstream Magazine – Writer
- Games Video
- Games Radio and Podcast
- Games Blog
- Rising Star
- Coverage by a Mainstream Website
- Top Tweeter
- Games Writer of the Year
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Where:
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When:
Thursday, October 18th
Lobbying Opens: Now. Email gma@intentmedia.co.uk
Trade Tickets:
Contact Kathryn.Humphrey@intentmedia.co.uk
Sponsorship:
Contact Caroline@indigopearl.com

AMONG PEERS

The winners will be voted for by members of the media and industry PRs. But a special category – the Games Writer of the Year Award - has been introduced for 2012 to reward excellence in games journalism.

All games journalists – specialist, non-specialist, print and online – are invited to enter this category. Journalists simply need to submit a piece of writing published since October 26th last year. The nominations will be judged – totally anonymously – by award-winning journalist and *Guardian* columnist Tim Lott.

"The Games Writer of the Year award will be an incredibly prestigious accolade for the winner," explained Lisa Carter, managing editor of *Develop's* sister magazine *MCV*. "We are looking to highlight excellence in games journalism and this award will be judged purely on prose. Our judge, Tim Lott, has won the Whitbread Novel Award and has a weekly column in the *Guardian*. Importantly, he also has no association with video games, which means he will be judging our finalists purely on their writing skills."

Elsewhere, the categories have been tweaked slightly to reflect the change in media consumption within the games sector, and to better recognise individual writers. Notably, there is an award for best use of social media.

You can begin lobbying for an award for yourself, a colleague, a favourite media brand or individual, or even a competitor now. Simply email gma@intentmedia.co.uk. The lobbying closes on July 20th.

Up to 350 guests will attend this year's Games Media Awards, including nearly 200 media. A limited number of trade tickets will be available at £150 per person. Contact Kathryn.Humphrey@intentmedia.co.uk to find out more.

Further partnership opportunities are available. To find out more contact caroline@indigopearl.com.

GMA 2012 GOLD PARTNERS

//COMMENT: BUSINESS

The (financial) wisdom of crowds

by **Nick Gibson**, Games Investor Consulting

ZOMBIES
RUN!

Six-to-Start's jogging-based iOS game Zombies, Run! is a Kickstarter-funded success story

THE HYPERBOLE around Kickstarter has been extensive, even by games industry standards, with statements along the lines of, 'the future of games finance' and 'the solution to developers' poor access to finance' being made, often by hopeful and expectant indies.

This month I want to explore the potential opportunities and pitfalls of crowdfunding.

Is it really the answer publishers' and VCs' aversion to funding indie games?

Few would disagree that, for over a decade, the traditional publisher advance-based project funding model for indie developers has been broken. The advent of direct-to-consumer games platforms over the same period has reduced average project budgets and empowered indie developers to take more direct control over their commercial fortunes. But a funding gap still remains.

The paucity of intermediaries offering material distribution advances for finished games, let alone fund games development, has forced developers to self-finance or seek VC finance to get their games to market. As the industry core of large triple-A publisher and indie developers has been steadily joined by legions of new cash-strapped micro-developers, the funding gap, although less deep, is now significantly wider.

ONE-OF-A-CROWD

Into this vacuum steps a plethora of solutions assisted by the social graph and powered by individual interest. Kickstarter may have grabbed all the crowdfunding headlines in 2012, but it is actually one of many hundreds of different similar platforms. They range from P2P lending services – for example Funding Circle – to equity funding – such as Crowdcube – and donation funding models like Kickstarter's. There are at least six games industry-specific crowdfunding platforms, most eclipsed by Kickstarter, whose momentum in many ways is virally self-perpetuating. More coverage means more potential donors, means more successfully financed projects which leads to more coverage and so on.

> **"Few would disagree that, for over a decade, the traditional publisher advance-based project funding model for indie developers has been broken."**

What's interesting about Kickstarter's success is that its donation model is arguably the least advantageous to funders, essentially being a glorified, highly risky pre-order system.

The rewards tend to be limited (most often by the provision of a copy of the game) with no money-back guarantee like a regular retail pre-order. Even the bigger rewards for more generous donations tend to have a high perceived value but very low actual cost (perhaps a name added to the credits).

In contrast, debt crowdfunding provides interest income and, in some cases, even some security over the company's assets while equity crowdfunding – not yet legal in the USA – provides both shares and potential dividends. Some debt and equity funders even provide the same sort of in-kind benefits as donation platforms.

However, what is disadvantageous to the funders is fantastically beneficial to the project owners; or at least for those roughly 50 per cent of Kickstarter projects that successfully meet their funding targets.

Developers that can access funding at minimal cost (basically eight-to-ten per cent platform and payment costs, plus the fulfilment cost of the rewards), do not need to cede any ownership of the company, control of the IP, sequel or merchandising rights, and maintain total artistic and production integrity.

In fact there is little by way of legal obligation besides 'good faith' to actually complete the project or fulfil any of the promised rewards. Funders typically have no rights to audit the use of funds to ensure the funds aren't going towards other projects or, worse, straight into individuals' pockets.

CROWDFUNDING, RUN!

Unfortunately a financial system that is open to abuse is going to be abused; it is simply a matter of time. By the start of May 2012, Kickstarter had seen over $20 million raised for 857 games projects. A tiny handful have already been suspected of being fraudulent and closed down before they could conclude their funding window. Many projects have been funded, developed and released to great commercial success, such as Six To Start's *Zombies, Run!* jogging gamification title.

However, it is inevitable that not all projects will make it to market. I believe it will take just one high profile or budget failure or case of fraud to plant seeds of doubt in funders' minds as to the wisdom of their donations.

Crowdfunding is not the future of games financing; it is a future and likely to remain a relatively niche one at that. It is dwarfed by the $1-billion-to-$1.5-billion invested in private games companies each year by VCs and is of completely inconsequential size next to the multiple billions spent by publishers per annum. It will supplant neither.

However, the role it is fulfilling for small games companies is undoubtedly a critical one, and my hope is that the inevitable future failures will simply result in the use of more accountable or rewarding crowdfunding practices, rather than the dissipation of a highly promising, valuable and democratic movement.

Nick Gibson is a director at Games Investor Consulting, providing research, strategy consulting and corporate finance services to the games, media and finance industries.
www.gamesinvestor.com

//COMMENT: TRENDS

'Show me your **** u ***** from Ubisoft'

by **Ana Kronschnabl,** Fluffy Logic

Incident's like the treatment of the sexualised nuns in the recent Hitman: Absolution trailer show issues of gender and the portrayal of women in games still warrant much discussion

THE TITLE of this article has been edited so as not to cause offence.

It is a quote from a comment on an article by a female developer discussing games, and is, unfortunately, fairly typical of many of the comments there and elsewhere where women talk about games.

And when I say 'talk about', I actually mean 'having anything to do with games in any way'.

I have been involved in the games industry for a while now; at least seven years. I must admit to having once been pretty naive in terms of gender and the games sector. I knew that there probably wouldn't be so many women working in the industry, but seriously, once you leave out marketing and office support, women actually involved in development drops way down.

I first started to question my career choice at E3 about five or six years ago when I went to the toilet and found myself surrounded by semi-naked booth babes. Apparently, I had wandered into the toilet they were using as a dressing room.

At a games conference I went to recently, the first night started by being invited to a strip joint. I wasn't shocked, just a bit disappointed, and it was enough for me to decide that I should probably take myself off to bed.

RATED MATURE

Like I say, shock isn't the response. Let's face it, I'm a grown up. My real response was to compare my assessment of the games industry with other creative industries I have been involved with before; the TV sector for example. My conclusion seems to be the same as a lot of people's at the moment – it's time to grow up.

The title of this piece comes from just one of the items to come to my attention recently.

Computer games are entering the public's consciousness at an increasing rate. Hardly surprising since they are responsible for generating absolutely staggering amounts of money; around $48.9 billion by 2011, and an estimated $66 billion in 2012.

However, the industry itself remains apart from other mainstream creative industries. There certainly isn't the level of exposure afforded to Hollywood actors or even directors.

There are, I am sure, many reasons for this. We may not all be as glamorous as some other industries. But up there as one of the major reasons is the overwhelmingly juvenile, unpleasant, and in some cases, I have to say, plainly misogynistic attitudes of some of the gaming world.

TALKING TRASH

In a recent fighting game competition called *Cross Assault* a male player called Aris Bakhtanians made offensive comments about fellow competitor Miranda Pakozdi, including guessing her bra size, talking about her body parts, and speaking about sniffing her. He, and much of the gaming community, then defended his right to 'trash talk' – such as using horrid phrases like 'rape that bitch'– within fighting games. He later apologised to her on Twitter.

> ***"The litany of abuse that women are regaled with when venturing into the online gaming world is jaw-dropping, incredible, and sad."***

It is by no means the attitude of most people involved in either development or actually playing games.

But what is interesting is that it pervades the whole culture of video games like a puerile bad smell.

It is evident in the portrayal of women in games, and has been experienced by any woman that has had the temerity to venture into MMOs. The litany of abuse that women are regaled with when venturing into the online gaming world is jaw dropping, incredible, and sad.

WE CAN DO IT!

I work within an industry that I find exciting, fast-paced and fun. The behaviour discussed above does nothing to progress games as a medium and, I would argue, is one of the main things currently holding it back from being a true part of mainstream culture.

In an interview with Jade Raymond by Simon Parkin for *Eurogamer* Raymond spoke about her vision on games; something ignored by many of the people who chose to comment on the article. They instead opted to abuse Raymond, resorting to the familiar stance of insulting her, and any other woman who dared to venture out of the kitchen and into the 'frontier world' of gaming – see title for further details.

42 per cent of gamers in the US are women, 31 per cent in the UK. Whilst women may have a preference for social gaming currently, who can say what they would be playing if they felt welcome?

As an industry interested in making money we should be considering how to deliver products to delight all people, all genders, ages, whatever. It makes financial sense. It also makes creative sense.

Ana Kronschnabl is CEO and creative director at games and digital content studio Fluffy Logic, which has produced titles for a wealth of platforms across console, mobile and online. Fluffy Logic is currently at work on social game *UrZoo*. **www.fluffylogic.net**

//COMMENT: MOBILE

Killing contracts

by **Will Luton**, Mobile Pie

In a creative space where it is more often than not about the money, negotiating deals is a vital skill for any developer

COMPANIES IN GAMES are rarely truly independent – they must cut deals with others to make things of any importance.

Traditionally this means studio-publisher deals, but with direct access to the market and new partie – like brands – investing in games, things are changing.

I'm going to outline a few basics I've picked up from negotiating and contracting our deals here at Mobile Pie. Yet I'm not a lawyer, so had my man Jas Purewal of law firm Osborn Clarke sanity check me.

RISK

Contracts define rules which balance the risk and reward of a deal. It regulates what either party is putting in – usually money or time – against what the potential benefit is.

Sometimes the input and output may be fixed for one party. For example; a publisher owns an IP and has a fixed design with specified features and content. The developer can estimate with reasonable accuracy their cost, so receive a fixed remuneration with a built-in profit. The IP owner may then receive all of any future profit from the product as they have taken all of the risk. Either party may also bring to the table profile, audience, talent and proprietary technology, which changes the risk for those in the deal.

MOTIVATION

The motivation of the dev in the previous example is possible profile raising, but let us assume the project is without credits. The main motivation then becomes the fixed fee.

The developer gains the most by spending the least on it. This may benefit the publisher as it hits the market sooner, but in reality it probably means a poorer quality product.

Quality could be ensured with stringent acceptance criteria, but this is likely to increase dev costs and result in passionless hoop jumping. An upside is more carrot than stick, giving a developer a share of the royalties and/or bonuses based on its performance.

> ***“Whoever retains the intellectual property and the rights around it controls its destiny beyond the duration of the limits of the contract.”***

Royalty shares can be from day one or structured as advances – the development cost is given as a prepayment on royalties. A royalty upfront is like loan but with no obligation should the project fail. The funding party reduces risk by recouping first and the developer has a reason to make the product good.

IP RIGHTS

Whoever retains the IP and the rights around it, controls its destiny beyond the duration of the limits of the contract. If you're bringing the IP to the table, don't expect to hand it over without a good reason. Like a big stack of cash. Joint IP ownership, separating technical and creative IP and options clauses, like first refusal rights (same partners seek a deal first), can also be useful bargain chips.

MILESTONES

Commonly a payment schedule is dependent on meeting 'milestones'. Milestones are important achievements in development, such as first-playable, alpha, beta et al.

If your company is dependent on this single deal to stay afloat then milestones are your lifeline. Think about what the dependences are on achieving this. If a milestone is on the paying party or an approval process make sure there are strong stipulations that stop it being delayed despite your reasonable actions.

TERMINATION

Termination clauses define how and in what circumstances either party can reject what parts, or even all, of their duties. These can be complex and rarely cookie cutter.

Mostly they'll outline breaches (a failure in someone's performance) and the process to resolve them before a termination can be carried out. In some cases one party may be able to cancel for a specific or no reason. Think about all possible scenarios and how they'll affect your company.

REMEDIES, INDEMNITY AND LIABILITY

These define what happens if things go sour and may tie to termination clauses.

- Remedies - what recourse must be made in the event of a breach.
- Indemnity - a requirement to pay and or protect the other party if things go wrong.
- Liability - allocation of risk between the parties and the limits of those risks.

It's common to see these protecting the party writing the contract, but you should try to make them mutual, which is a winnable cause. Non-mutual remedies, indemnity and liabilities is a hard position to fight.

TO CONCLUDE

Contracts concerning creative products rely on the motivation of everyone involved, therefore they only work if they are fair and none of the parties feel like they're being done. If you feel you can't be fair or are getting shafted, walk away, and if you don't understand, get a lawyer.

Will Luton is creative director at the award-winning boutique studio Mobile Pie. The studio creates its own IP and works on licenses, with a partner list that includes the BBC, Orange and Hewlett-Packard. Follow Will on Twitter at @will_luton, or visit **www.mobilepie.com**

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//COMMENT: IP BUILDING

Restoring the Empire

by **Al Bickham**, The Creative Assembly

An early look at Total War: Rome II reveals how far The Creative Assembly has come since the original game eight years ago

THERE ARE TWO jostling factors at play when reprising a past classic; technique and technology, and it's worth highlighting here the differences between cinema and games.

As a medium, cinema has been knocking about for over 100 years. It's consolidated, mature, and in terms of technique, it's increasingly rare to see evolution happening. When a new mode arises, it's adopted and done to death in a heartbeat; the mockumentary offers a sterling example.

Cinematographers therefore tend to lean more on technology to differentiate their reboots, and that alone can be a dangerous crutch; almost every film uses CG in one form or another, but it's hard to define whether that really adds to the experience, and film-craft often suffers as a result.

Games development, barely a third of cinema's age and with a rapidly swelling number of target platforms, still gets to jimmy around with technique all it likes, and that places us in a thrilling, chaotic stage of evolution. Viewed broadly, from triple-A to the lonestar indies, dev is a hubbling broth of game-genes that spits out new forms and reconfigures old ones at a frankly terrific rate.

For sure, there's obvious consolidation in many genres (FPS, RTS, third-person action, etcetera), but most big devs still have the luxury of playing around with both technique and technology. And with the wonder-channel of digital delivery yawning open in earnest, a good new idea, well-executed, can still make for a runaway success.

Even a game with a tiny development budget can outperform a crucifyingly expensive summer blockbuster, un-reliant as games are on the saurian, monocled whims of the box-office. It's an ageing beast, herded by risk-averse marketeers who, for the most part, value verisimilitude over variety.

SPLICE AND EASY

And as a favourable result of all the furious splicing we perform, there's one thing that games can do really well: differentiate.

We're in full production on *Total War: Rome II* at the moment, and on a personal level, revisiting the period is enormously exciting for the studio. The Senate; the Legions; that string of legendary individuals who reshaped the world in their own lifetimes; it's a period pregnant with promise for a super-deep game. And from the writings of Tacitus, to Sunday re-enactment societies, to Gods and nudies bonking their way across surviving pottery, there's an absolute sea of source-material to draw upon for inspiration.

It's been eight years since we launched the original *Rome: Total War*, and our studio has evolved remarkably since those days. *Rome II* will share a dash of DNA with the original – a mighty turn-based campaign game that spans the sweep of Roman history peppered with stunning real-time battles – but that's largely where the similarity ends, and the way we're going about it would probably baffle our eight-year-younger selves.

Our processes and pipelines have evolved to handle a game of this scope far, far better.

A good example of this is that we've devolved a number of our decision-making processes to lead level, in order to ensure a better dovetailing between design tenets and the coal-face realities of implementation. And our engine and tool-chain have changed enormously; they'll continue to do so throughout the course of the *Rome II* cycle. We're currently playing with SSAO, scene-lit particles and an array of other graphical techniques that are bringing a breath-taking, cinematic quality to our battles. We're breaking ground online in a way that – by its nature – the medium of film can't hope to compete with, outside of viral marketing.

> **“Even a game with a tiny development budget can outperform a crucifyingly expensive summer blockbuster, un-reliant as games are on the whims of the box-office.”**

TOO BIG FOR REBOOTS

Our technique and technology are evolving in parallel, and when that happens, it's surprising how quickly features can be added, modified or changed. It means we enjoy an agility of thought between design and implementation, and makes the idea of re-approaching a period we've dealt with in the past less a case of 'how do we differentiate from what we did before?', and more 'where do we put the brakes on?'. With three times the staff of the original *Rome*, we have feature ideas coming out of our ears. Our challenge is to filter out the very best ones.

In games development, new technology isn't simply a gateway to more impressive visual experiences. It can inspire new techniques, broaden the field of possibility and help realise new themes. Given the narrow outlet of the box-office, I'm not sure Tinsel Town has the luxury – or possibly the will – to explore these new vistas.

Films only ever reboot. That word is way, way too small for what we're doing.

Al Bickham, is The Creative Assembly's studio communications manager. A former journalist, he stands in this month for *Develop's* regular CA columnist Tim Heaton. **www.creative-assembly.co.uk**

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THE MONTH AHEAD

A look at what July has in store for the industry and beyond

JULY 6TH
International Kissing Day. A time to kiss for kissing's sake, even in the socially awkward games industry.

JULY 10TH
Develop Conference 2012. The industry comes together to learn from each other and share their experiences.

JULY 11TH
Develop Awards 2012. In case you somehow missed us bigging it up, the prestigious ceremony is back.

JULY 11TH
World Population Day. As the world surpasses seven billion people, the apocalypse feels all the closer.

JULY 17TH
Yellow Pig Day. Mathematicians celebrate yellow coloured pigs and the number 17. Seems reasonable.

JULY 18TH
Tony Hawk's Pro Skater HD. If, like *Develop*, you like skateboarding, this one should excite you plenty.

JULY 20TH
Friend's Day. We assume the apostrophe means you can only celebrate with one friend.

JULY 22ND
Pi Approximation Day. Celebrating the fractional approximation where it is written as 22/7. P-A-R-T-Y.

JULY 27TH
National Sleepy Head Day. A Finnish tradition sees the last person in the house to wake thrown into a lake or the sea.

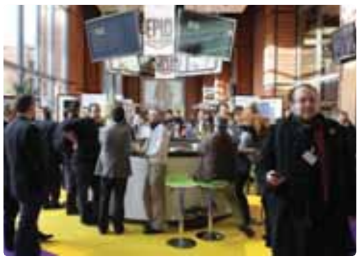
JULY 27TH
London 2012 Olympics. Londoners leave home whilst the rest of the world arrives to pay extortionate rent prices.

JULY 27TH
Bagpipe Appreciation Day. Time to enjoy some excruciatingly awful music from terrible musicians.

JULY 29TH
International Tiger Day. Raising awareness for tiger conservation, not to be confused with Tiga.

DEVELOP DIARY

Your complete games development event calendar for the months ahead



GAME CONNECTION EUROPE
November 28th to 30th
Paris, France
www.game-connection.com

Debuting in 2001, the Game Connection events have become a staple networking event for thousands of games developers, tech outfits and those in publishing and related sectors.

As ever, the 2012 European iteration of the nation-hopping show is focused around meetings, and supported by a streamlined scheduling tool available to attendees to make sure they optimise their time at the event.

The event will be held in Paris, from November 28th to 30th, 2012. More than 1,600 visitors are expected.

JULY 2012

DEVELOP CONFERENCE
July 10th to 12th
Brighton, UK
www.develop-conference.com

DEVELOP INDUSTRY EXCELLENCE AWARDS 2012
July 11th
Brighton, UK
www.develop-online.net

MONETISING MOBILE 2012
July 12th
London, UK
www.mobile-ent.biz

AUGUST 2012

EDINBURGH INTERACTIVE 12
August 9th to 10th
Edinburgh, UK
www.edinburghinteractive.co.uk

GDC EUROPE
August 13th to 15th
Cologne, Germany
www.gdceurope.com

GAMESCOM
August 15th to 19th
Cologne, Germany
www.gamescom-cologne.com

SERIOUS PLAY CONFERENCE
August 21st to 23rd
Washington, US
www.seriousplayconference.com

SEPTEMBER 2012

CLOUD GAMING USA 2012
September 11th to 12th
San Francisco, US
www.cgconfusa.com

DEVELOP QUIZ
September 19th
London, UK
www.develop-online.net

TOKYO GAME SHOW
September 20th to 23rd
Tokyo, Japan
tgs.cesa.or.jp/english

OCTOBER 2012

APPS WORLD EUOPE
October 2nd to 3rd
London, UK
www.apps-world.net/europe

MCV / XBOX 360 PUB QUIZ
October 4th
London, UK
MCVuk.com

GAMECITY 7
October 20th to 27th
Nottingham, UK
www.gamecity.org

ITAG CONFERENCE 2012
October 20th to 27th
Nottingham, UK
itag.gamecity.org

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> *"Enlighten has given us unparalleled productivity on Need for Speed: The Run"*
> - Alex Ferrier, Lead Graphics, EA Black Box

> *"What you see in Battlefield 3 is only the beginning"*
> - Patrick Soderlund, Exec VP Games, EA

FINALIST develop INDUSTRY EXCELLENCE AWARDS 2012

Screenshots from: Quantum Conundrum, © 2012 Square Enix; Eve Online © 2011 CCP Games; and Battlefield 3, © 2011 EA Digital Illusions CE AB.

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BETA

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Develop Conference guide

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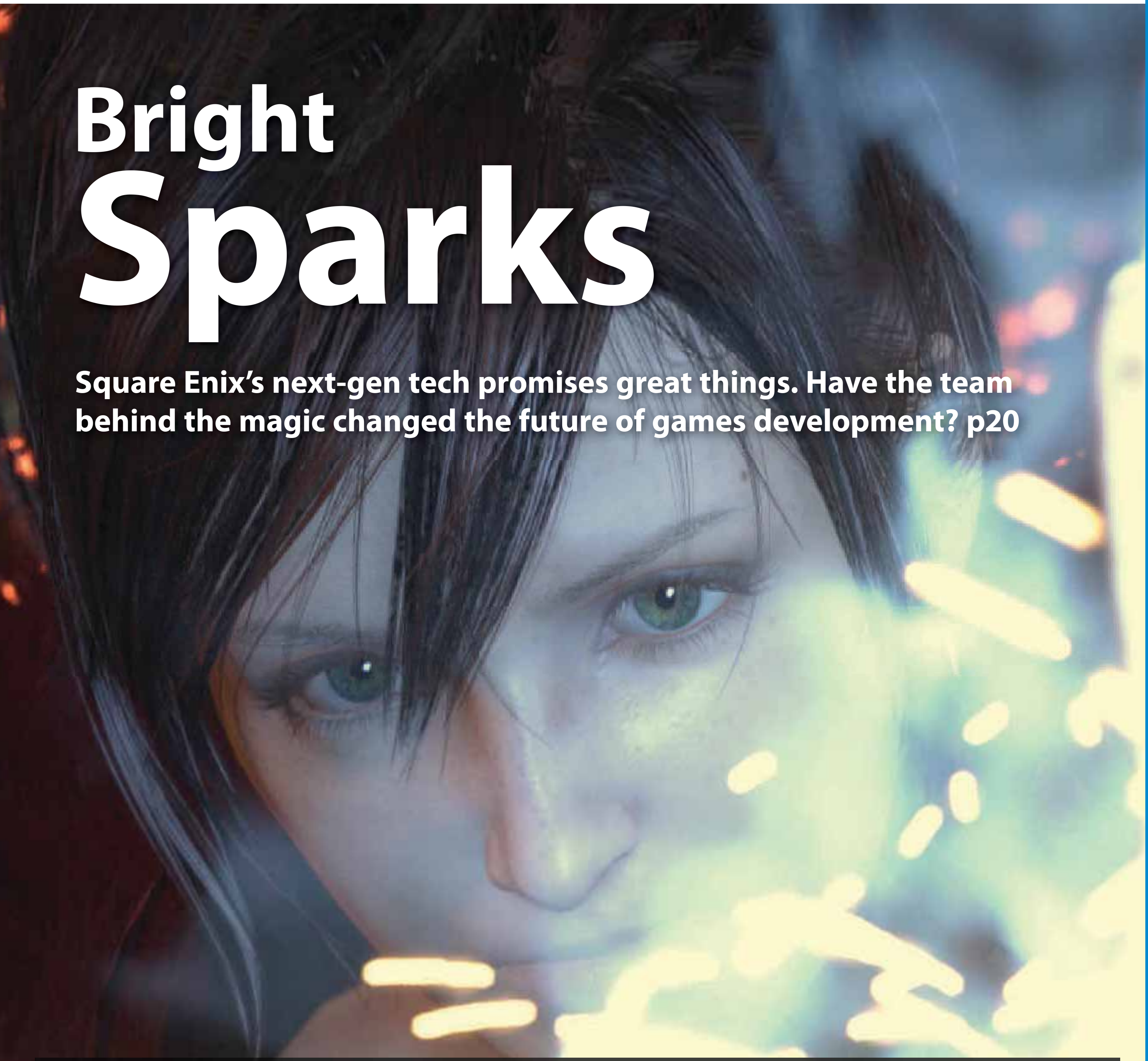

Bright Sparks

Square Enix's next-gen tech promises great things. Have the team behind the magic changed the future of games development? p20

Region focus: Going Dutch

p34

Analytics uncovered

p44

Make the perfect pitch

p48

WHO WANTS TO GO NEXT?

Square Enix, that's who. With an impressive tech demo showing off its next-gen prowess, the Japanese outfit has plenty to say about the future of HD games. **Michael French** investigates

IN THE AGE of Unity and Unreal, games developers collaboratively came together during the current generation to solve the secret of how wild ideas can become a tangible product.

The solution has been third-party tools, used by studios of all sizes. Few people grow their own tech, and the biggest hits these days are often built on someone else's.

As the next-generation of games hardware vaguely looms over the current fractured market – consisting of a console-smartphone-handheld-browser-PC-tablet mix few would have foreseen three years ago – most of us are expecting more of the same when new games hardware is on the market. Studios can't create technology for all of this alone, right?

Square Enix thinks otherwise. At E3 it unveiled its long-in-gestation Luminous Studio engine, a new proprietary technology built in-house.

Everything about Luminous seems to run contrary to the direction triple-A games are going. It's not for sale to third parties. Square Enix thinks it can use this to form a cross-studio internal technology base. And it reckons it can do that by either keeping team sizes the same, or at least empowering its artists and coders in the face of spiraling asset demands. Oh, and it will also rescue its ailing Final Fantasy series by living up to the dream offered by the franchises luscious cut-scenes.

PHILOSOPHER'S STONE

The first demo for Luminous, called *Agni's Philosophy*, is very slick. It tells a brief but classic *Final Fantasy* story about priests, magic and transforming demons.

It revels in every detail, introducing a detailed, dusty town built into a mountain-top populated with characters both strikingly beautiful and realistic, but also ugly, with hairs and odd-looking facial nuances.

When he sits down with *Develop* to talk us through replay after replay of the real-time CG effects, Square Enix's Japanese CTO Yoshihisa Hashimoto pours off the details, his labour of love broken down into impressive stats and humble demonstrations of technical genius. Hashimoto was director of the *Sonic* games for ten years, before moving to Square Enix to head up its next-gen technology efforts.

One scene in his tech demo includes the following: seven hugely detailed character models including Agni herself, whose outfit is built from hundreds of feather assets, an evocative temple environment, plus a giant contorting beast that is evolving from over a hundred thousand smaller insects, themselves made up of thousands of polygon meshes layered with detailed particle effects.

Oh, and it's all running in real-time.

At one point Hashimoto pauses the action and spins the camera around to reveal the warts and all textures hidden off camera, to prove the content is real and not a trick.

Later, during a close-up of a bearded hobo, his facial scruff dynamically generated in real-time using tessellation, Hashimoto jokes, "More beard!" and "Santa Claus!", lengthening strands of hair and recolouring the assets on-the-fly to comical but impressively swift effect.

He explains: "This has been a very big deal for our cinematic team, who would wait hours to see the rendering result of a single frame. Now, within seconds, they can edit characters and change appearances."

He adds: "If an artist came up with the elaborate design [for Agni's costume] for a game on PS3 or 360, we would really scold them. But this kind of design can be achieved with the powerful GPUs on the market now, and we can make it look realistic."

> ***"This has been a very big deal for our cinematic team, who would wait hours to see the rendering result of a single frame."***
>
> Yoshihisa Hashimoto, Square

Part of this seems to be thanks to a clever, if undisclosed, way the engine is running live with Autodesk's Maya to allow for live editing of assets in the game renderer – although Square doesn't go into details.

All in all, it is very slick, instantly catapulting Square Enix into a select league of studios that have dared to show super-HD games for PC and next-gen consoles before the latter are even announced.

At E3, Square Enix contemporaries LucasArts, Epic Games and Ubisoft Montreal were the only others happy to break away from Sony and Microsoft's sealed-lips policy to show equally marvelous videos for *Star Wars 1313*, Unreal Engine 4 and *Watch Dogs*.

However any developer that has built a tech demo will tell you that they are much of a muchness. Smoke and mirrors. Yes, *Agni's Philosophy's* mirrors are probably some of the most detailed, reflective surfaces. And if it was for an actual game, the fanboys would be frothing. But the fact is CG showboating is still showboating.

What really intrigues about Luminous Studio is the impact Square Enix hopes it will have on the craft of making games.

CG EYED

Fittingly for a *Final Fantasy* concept, *Agni's Philosophy* began with a CG cut-scene. Since *Final Fantasy VII*, the series has been notorious for almost jarring switches from beautiful rendered cinematics to gameplay featuring vastly downgraded, less expressive character models.

The dramatic jump between movie and gameplay may have been leveled out over the years as game technology has improved, but Luminous goes further, blending the fields of traditional CG and in-game rendering.

That might seem like a bit of a non-revelation, but to Square Enix and many other triple-A studios which still fall back on video teams to generate unforgettable CGI segments that prop up a game, it offers a unique change to the workflow and how teams can be structured.

"To create this demo, we requested the visual arts team create a pre-rendering CG first, and that was ported into our engine," explains Hashimoto, showing the two

▶

Square Enix CTO Yoshihisa Hasimoto (above) insists the impressive visuals from its Luminious engine (top) can be achieved with powerful GPUs on the market already

If you're keen to make games that look like this remember: Square Enix is keeping its tools to itself

running side-by-side. The comparison of the two inevitably shows the tech demo outshining the original and comparatively rough source material. It's a production draft, after all.

But the marvel here is the fact it has taken high-end assets and swiftly translated that into game engine material. When it comes to things like lighting, the look and feel of this art-driven source material has been perfectly replicated into the demo.

"The same people who worked on the CG then worked on the lighting and design of the actual demo," adds Hashimoto, extolling the inherent values of mixing the game and CG video workforces.

"If you want to fine-tune pre-rendered CG, rigging the lighting and changing the expressions takes time – but in our real-time technology it's just a few minutes of tweaking. We've been able to easily change and address many of the subtleties quickly.

"Ultimately, what we have done is create a movie as a visual work, and it was ported into real-time. And we felt we became more flexible editing that using Luminous Studio compared to just creating it as a pre-rendering."

CHASING THE DRAGON

In terms of gameplay, much of the motivation here has been on what Square Enix has always championed: characterisation.

"Square Enix highly values in-game characters – so the hair, skin, face and details. That's what we focus on," says Hashimoto. You don't have to look hard for varying examples of Square's eternal search to get this right. The expensive foray into CG movies with *Final Fantasy: Spirits Within* or the emphasis on faces in the publisher's 2011 *Deus Ex* sequel are just two. This new footage of Agni's dragon pursuit seems to be, finally, the dream realised.

Yet the actual humans the company employs to make its games might in fact be the ones escaping from the nightmare trappings of development. Team sizes could actually fall in this new era of high-end technology, says Hashimoto – if not, the emphasis will at least allow more creative artistic freedoms.

"If you are making games like those we've seen on PS3 or 360, I can say you will be able to reduce your staff numbers with technology like this," he says.

"However, this level of quality game [in *Agni's Philosophy*] will require a lot of additional material, so you'll probably end up employing more artists and designers. So that would offset reducing any staff.

> ***"We are hoping that Luminous means we will not have to reduce any of the capabilities shown by the on-screen characters."***
>
> Yoshihisa Hashimoto, Square

"But things that previously used to require a lot of manual input, such as smoothing out errors or flaws, will switch to procedural or automated computer function."

The emphasis in the next generation, he says, will shift to aesthetics, not programming. He doesn't mention it, but it's no secret that Square Enix for one has struggled with the demands of the current generation. A project *like Final Fantasy XIII* needed hundreds of programmers and artists, and even then was beset by delays.

Hashimoto won't go on the record as saying his technology can kill off the cut-scene, though. For a start, things like "tiny changes to costumes" on the fly could cause headaches for designers and load for GPUs and CPUs – so whenever Agni shows up in a real *Final Fantasy*, it's likely her adventure will still be punctuated by static video clips bookending gameplay segments.

"But these days you want seamless movement between cut-scenes and gameplay – that's why we highly value having such high quality gameplay that looks like CG," he says.

"We are hoping that, as a game engine, Luminous means we will not have to reduce any of the capabilities shown by the on-screen characters."

It is progression, at the very least. The difference between cut-scene and gameplay, even those that are often produced in-engine but still rendered into movies, has been a concession developers have always had to make, often only with minimal satisfaction. Gamers might not notice it ▶

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What Luminous can achieve is striking, but can it live up to expectation?

outright, but Luminous' efforts to make the fantastical feel consistently real probably has a bigger pay-off in the long-term.

FINAL THOUGHTS

Provided there is a long-term future for these kind of games, that is.

In the face of a fractured market, with many in the industry predicting the death of consoles and triple-A losing its luster because of that, cynics might say that Square Enix is setting itself up for disappointment. Luminous Studio won't be sold to third-parties either, so it could be an expensive disappointment at that.

But Hashimoto is resolute, and Square Enix says that high-end triple-A isn't going extinct any time soon.

"We can confidently say that the quality of the graphics at least will be graphically improved, the AI and animation will be dramatically better too, whatever the next formats are," he says.

"We wanted to deliver a message to the games industry and gamers: Square Enix is ready for these high quality games, using Luminous as our game engine.

"More realistic and more lifelike characters will appear in games," he adds, in a matter of fact manner.

"[*Agni's Philosophy*] is a *Final Fantasy*, there will be a *Final Fantasy* that looks like this," he adds for emphasis.

"We wanted to make sure that expectations were rising. This is a glimpse of a game coming up pretty soon, it's not that far from now. Technologically we are now ready for any platform. And we want to inspire other game creators to make something like we have too."

Certainly, Hashimoto is seeing that happen in-house. Key elements of the environment in the Agni demo were actually designed by *Tomber Raider* developer Crystal Dynamics. It's the perfect metaphor for Square Enix; a character born in Japan, finding its way in Western surroundings.

"We all share, and are very friendly," says Hashimoto when talking about sister studios IO Interactive (*Hitman*) and Eidos Montreal (*Deus Ex*), and when *Develop* broaches the topic of how the Japanese fear of sharing technology and secrets seems to be evaporating as the country's console market comes under increasing pressure.

> ***"We wanted to deliver a message to the games industry and gamers: Square Enix is ready for these high quality games."***
>
> Yoshihisa Hashimoto, Square

Ultimately, what Square Enix is building in Luminous isn't just an impressive and powerful game engine, but a bridge. Between its talent. Between its studios. Between its ambitions and reality. Between console generations. And perhaps even across the uncanny valley, which has eluded developers for years.

In an age of Unreal and Unity, Luminous strives to be realistic and divisive. Maybe that is the secret to the next generation.

SO WHAT IS NEXT-GEN?

Graphically, it's apparently a GeForce GTX 690 coupled with 8GB of RAM.

Official specs for the 'Xbox 720' or 'PS4' aren't set yet – and the target specs shared with some developers are a closely guarded, and a regularly changing secret.

But most in the know say that the next-gen games shown at E3 were mostly likely running on GeForce's latest PC graphics card. Certainly, all developers at the show alluded to their demo hardware essentially being rigs they built themselves.

Square Enix was no different.

"This is something that you can buy in a regular store," says Square Enix CTO Yoshihisa Hashimoto.

"It's hard for me to disclose the real brand name. All I can say is that it is about the same as the one the other companies are using to create their demos."

Hashimoto says that new consoles are overdue.

"We definitely expect something new and very powerful. It's been quite a while since PlayStation 3 and Xbox 360 were introduced – so it's time for something new. We are ready for that, but we have no idea what is going to be available and when."

While much of the Square Enix *Agni's Philosophy* demo showcases graphics, the real power of next-gen will actually be under-the-bonnet boosts from CPU power, he adds.

"We can confidently say that the quality of the graphics at least will be improved, but the AI and animation will be dramatically better too.

"The most significant and valuable change will actually not be the graphics, but AI and animation in those characters.

"I think that's the most valuable change the next-gen will bring."

He adds: "More realistic and more lifelike characters will appear in the game. People will expect it. Even the most aesthetic, very beautiful characters cannot get away with walking interacting with objects poorly. Games that do will be a laughing stock."

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SEA CHANGE

Each Develop in Brighton Conference offers a new view on the games industry. Our essential guide brings you everything you need to know about the show, so you can make sure you catch all the highlights

IF YOU'RE LOOKING to see how the development industry is evolving, then the Develop in Brighton conference should be an essential stop on your annual tour of the globe's games buisness conferences.

And this year's conference is shaping up to be the best yet. With 1,500 developers set to descend on the seaside city of Brighton, and dozens upon dozens of sessions, panels and talks scheduled for the event, it is sure to prove a superb learning experience, networking event and chance to see old friends in one of the UK's finest cities.

With an Indie Dev Day element, the forward looking Evolve sessions, and a wealth of content for studios established and newborn, there looks set to be something for everyone; not least the main keynote by Eugene Evans, VP and studio GM at Bioware Mythic.

Evans will be joined by a host of other speakers across nine tracks covering everything from audio and production to education and art.

Now in its seventh year, the conference kicks off Tuesday, July 10th with Evolve, and continues until Thursday, July 12th.

And don't forget that on Wednesday, July 11th, the Develop Industry Excellence Awards takes place in the same venue.

See you in Brighton.

www.develop-conference.com

LEAD KEYNOTES

EVOLVE KEYNOTE:
Everyone's Business is Business
Jason Holtman will deliver an insight into how developer and online store provider Valve has structured itself to become one of the world's most respected games studios and retailers.
(Jason Holtman, director of business development, Valve)
09.30 am, Tuesday, July 10th, Room 5

OPENING KEYNOTE:
A Survivors Guide: 30 years in Video Games
BioWare Mythic's industry veteran Eugene Evans comes to Brighton to share his story and relate the lessons he has learned about adapting and staying relevant by taking the best practices of the past, avoiding fads, staying true to an IP and remaining ever optimistic of the future.
(Eugene Evans, VP and studio GM, BioWare Mythic, an EA Studio)
09.30 am, Wednesday, July 11th, Room 2

OTHER KEYNOTES:

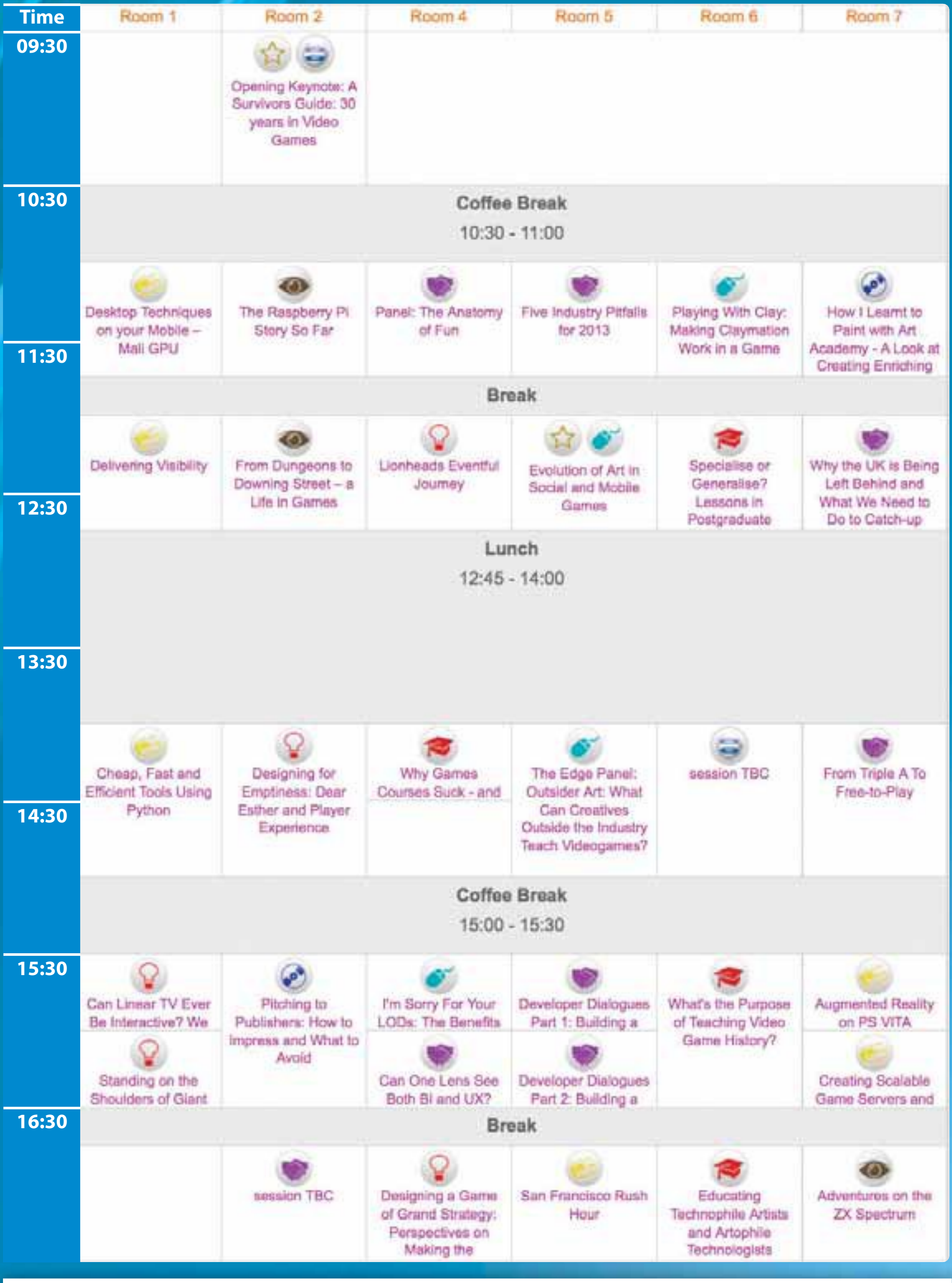
ART KEYNOTE:
Evolution of Art in Social and Mobile Games
James Zhang takes a look into recent trends and the evolution of art in social and mobile gaming, and offers advice on effective art management. He will also touch on globalisation, working with low budgets, and team motivation.
(James Zhang, founder and CEO, Concept Art House)
12.00 pm, Wednesday, July 11th, Room 5

AUDIO KEYNOTE:
Stephen Root will reflect on lessons learned during a career spanning nearly two decades, and will talk about what inspires him and what he sees as the critical factors for making today's video game soundtracks sound as iconic as famed movie scores.
(Stephen Root, director of audio, Codemasters)
10 am, Thursday, July 12th, Room 6

Tuesday, July 10th: Evolve

Time	Room 5	Room 6	Room 7
09:30	Everyone's Business is Business 09:30 - 10:15		
10:30	The Evolution of Casual Gaming and the Rise of IPTV 10:20 - 11:05	Amazon Cloud Computing and Gaming 10:20 - 11:05	session TBC 10:20 - 11:05
	Coffee Break		
11:30	Connected TV Gaming and Second Screen Engagement 11:20 - 12:05	The Smart Way to Make Gaming Pay 11:20 - 12:05	HTML5 is a Gaming Platform for Today, Not Tomorrow 11:20 - 12:05
12:30	Panel: In a World Filled with Mobile Games, How Do You Make Yours Stand Out? 12:10 - 12:55	Jenga Postmortem: Meet The Game That Beat OMGPOP's Draw Something 12:10 - 12:55	2020 Vision: Get Your Head – and Your Games – in the Clouds 12:10 - 12:55
13:30	Lunch 12:55 - 14:00		
14:30	30 Apps in 45 Minutes 14:00 - 14:45	Rising Sun or Fading Star? 14:00 - 14:45	Interactive Television - From Back of Couch to Front of Couch 14:00 - 14:45
	Panel: Metacritic Killed the Video Game Score 14:50 - 15:35	Mobile Games and App Consumption: What Can We Learn From Current App Usage Trends? 14:50 - 15:35	Learning the Lessons of Kickstarter 14:50 - 15:35
15:30	Coffee Break		
	TV & Gaming - The Future of Entertainment 15:50 - 16:35	session TBC 15:50 - 16:35	session TBC 15:50 - 16:35
16:30	Develop Panel: Evolution or Revolution? 16:45 - 17:30		

Wednesday, July 11th: Conference



Time	Room 1	Room 2	Room 4	Room 5	Room 6	Room 7
09:30		Opening Keynote: A Survivors Guide: 30 years in Video Games				
10:30	Coffee Break 10:30 - 11:00					
11:30	Desktop Techniques on your Mobile – Mali GPU	The Raspberry Pi Story So Far	Panel: The Anatomy of Fun	Five Industry Pitfalls for 2013	Playing With Clay: Making Claymation Work in a Game	How I Learnt to Paint with Art Academy - A Look at Creating Enriching
	Break					
12:30	Delivering Visibility	From Dungeons to Downing Street – a Life in Games	Lionheads Eventful Journey	Evolution of Art in Social and Mobile Games	Specialise or Generalise? Lessons in Postgraduate	Why the UK is Being Left Behind and What We Need to Do to Catch-up
13:30	Lunch 12:45 - 14:00					
14:30	Cheap, Fast and Efficient Tools Using Python	Designing for Emptiness: Dear Esther and Player Experience	Why Games Courses Suck - and	The Edge Panel: Outsider Art: What Can Creatives Outside the Industry Teach Videogames?	session TBC	From Triple A To Free-to-Play
	Coffee Break 15:00 - 15:30					
15:30	Can Linear TV Ever Be Interactive? We Standing on the Shoulders of Giant	Pitching to Publishers: How to Impress and What to Avoid	I'm Sorry For Your LODs: The Benefits Can One Lens See Both BI and UX?	Developer Dialogues Part 1: Building a Developer Dialogues Part 2: Building a	What's the Purpose of Teaching Video Game History?	Augmented Reality on PS VITA Creating Scalable Game Servers and
16:30	Break					
		session TBC	Designing a Game of Grand Strategy: Perspectives on Making the	San Francisco Rush Hour	Educating Technophile Artists and Artophile Technologists	Adventures on the ZX Spectrum

DEVELOP INDUSTRY EXCELLENCE AWARDS: JULY 11TH

EVERY JULY, *Develop* hosts the biggest awards night on the game development industry calendar with over 500 people attending representing companies from around the world.

Now in its tenth year, the Develop Industry Excellence Awards will shine a spotlight on games, studios, tools, technology, services, and the individuals that define our industry.

This year the Develop Industry Excellence Awards once again take place in Brighton at the Hilton Metropole Hotel – the same venue where the Develop in Brighton conference is held – on the evening of July 11th.

While there are a number of awards in this industry, the Develop Awards are the only peer-voted prizes for UK and European games developers which focus purely on creativity, teamwork, and inspiring innovation. Not marketing. Not hype.

20 awards are up for grabs for studios across Europe, with the core awards like Independent Studio, Development Legend and New IP still part of the mix. This year we also introduce two new awards categories: Narrative Design and Use of Online.

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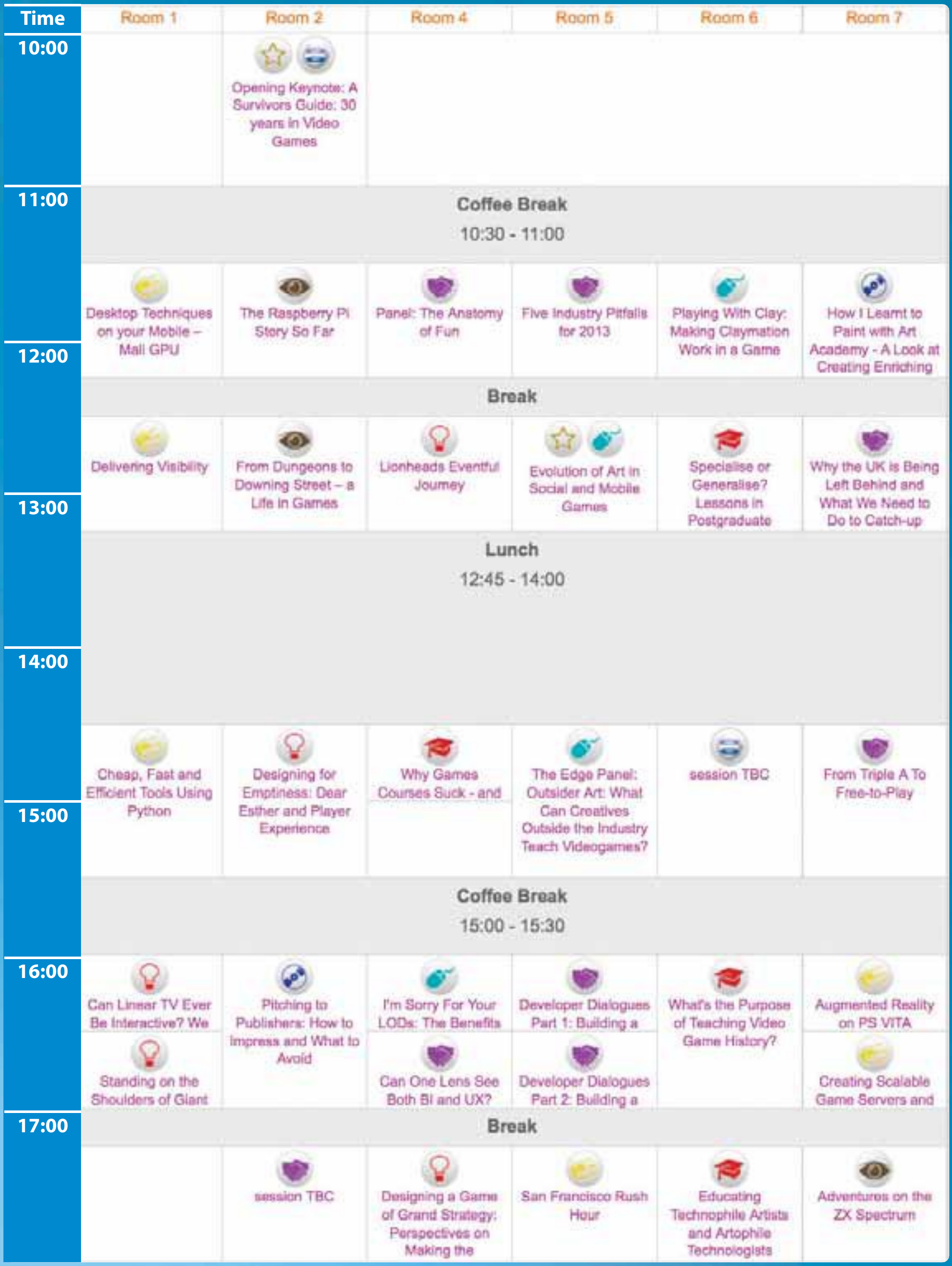
INDUSTRY EXCELLENCE AWARDS 2012

21 JULY 2011
indie dev day

Thursday, July 12th: Conference



Time	Room 1	Room 2	Room 4	Room 5	Room 6	Room 7
10:00		Opening Keynote: A Survivors Guide: 30 years in Video Games				
11:00	Coffee Break 10:30 - 11:00					
12:00	Desktop Techniques on your Mobile – Mali GPU	The Raspberry Pi Story So Far	Panel: The Anatomy of Fun	Five Industry Pitfalls for 2013	Playing With Clay: Making Claymation Work in a Game	How I Learnt to Paint with Art Academy - A Look at Creating Enriching
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	Delivering Visibility	From Dungeons to Downing Street – a Life in Games	Lionheads Eventful Journey	Evolution of Art in Social and Mobile Games	Specialise or Generalise? Lessons in Postgraduate	Why the UK is Being Left Behind and What We Need to Do to Catch-up
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17:00	Break					
		session TBC	Designing a Game of Grand Strategy: Perspectives on Making the	San Francisco Rush Hour	Educating Technophile Artists and Artophile Technologists	Adventures on the ZX Spectrum

EXPO: JULY 11TH & 12TH

Running alongside Develop in Brighton on Wednesday 11th and Thursday 12th of July is the Develop Expo.

The expo is free for all visitors to attend, and brings together some of Europe's most innovative companies from every sector of games development.

Additionally, at the heart of the Expo sits the Develop Bar & Networking Lounge, which offers a channce to meet with others from the industry.

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Sumo Digital
TechExcel
The Trailer Farm
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Wellcome Trust
Unity
Unreal Technology
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OTHER TRACKS

As well as the main conference, the Develop Industry Excellence Awards, Evolve and the Expo, there are a number of extra tracks and elements at Develop in Brighton this year.

The **Indie Dev Day** is back again for 2012. It offers a day-long conference track with networking events aimed specifically at independent developers taking place on Thursday July 12th.

The Indie Showcase is also part of Indie Dev Day, and will feature ten independently developed games shortlisted by a panel of experts. One of the games will go on to be named overall Indie Showcase winner.

Also taking place on the Thursday is the dedicated **Audio Track**, which offers a focused schedule from professionals involved in every aspect of games sound.

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EVOLVE

Tuesday 10 July
Exploring new platforms, new technologies and new business models.

KEYNOTE

Everyone's Business is Business
Jason Holtman, Valve

DEVELOP

Wednesday 11 & Thursday 12 July
Tackling key issues, tools, tricks and techniques of game development and offering practical advice and solutions.

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Wednesday 11 & Thursday 12 July
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unity

AUDIO

Thursday 12 July
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Audio Keynote 2012:
Stephen Root, Codemasters

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Expo
Free for all visitors to attend and brings together some of Europe's most innovative companies from every sector of games development. Exhibitors include: **ARM, Audiokinetic, Autodesk, Future, Imagine Animation, Kingston University, Mind Candy, PopCap, Special Effects, Sumo Digital, TechExcel, The Trailer Farm, TIGA, Unity Technologies.**

At the heart of the Expo is the **Develop Bar & Networking Lounge sponsored by** UNREAL TECHNOLOGY so you can buy colleagues a drink, have an informal meeting or just mix with other visitors.

And don't miss the Booth Crawl for a beer on us on Wednesday at 5pm!

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KEYNOTE

The Develop Conference Opening Keynote

A Survivors Guide: 30 years in Video Games

Eugene Evans, VP, Studio GM, Bioware Mythic, an EA Studio

Eugene is in Brighton to share his story and relate the lessons he has learned about adapting and staying relevant by taking the best practices of the past, avoiding fads, staying true to an IP and remaining ever optimistic of the future.

VISIONARIES

Our Visionaries

The Raspberry Pi Story So Far
David Braben, Frontier

From Dungeons to Downing Street – A Life in Games
Ian Livingstone, Life President Eidos

Adventures on the ZX Spectrum
Philip Oliver, Blitz Games Studios

Earthworm Jim: A Game. A Character. A Legend
David Perry, Gaikai

After Hours

Tuesday 10 July

Ice Breaker Welcome Drinks from 6pm
Sponsored by Unreal Technologies

UNREAL

The Develop Conference Poker Tournament in aid of GamesAid, sponsored by Relentless at The Grosvenor Casino from 8.15pm

Ukie Presents Indie Game: The Movie in association with Develop in Brighton at the Odeon Brighton

Wednesday 11 July

Develop Expo Booth Crawl from 5pm

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organised by Intent Media from 7.00pm

Thursday 12 July

Close of Conference Beers from 6pm

These are just some of the companies that will be there – make sure you are too!

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Dutch Courage

A bold new wave of indies, serious gaming firms and mobile specialists are reinvigorating the Netherlands hub. **Will Freeman** talks to the companies making this region's games industry matter

Game Academy's Albert Sikkiema (middle) and Invest Utretch's Derk van Wingerden (above). Main image: Codeglue's HQ

AS A COUNTRY, the Netherlands is well served by contemporary stereotypes. Once you've got the tired clichés about windmills and tulips out of the way, that is.

Dutch culture is considered liberal, its populace hip, friendly and intelligent, and its cities and rural sprawl desirable and beautiful.

In short, it's known as a nice place to make a home, and for that reason it has established itself as the host of a thriving games industry. From giants like Ubisoft and Nintendo, which have their Benelux headquarters in the Utrecht province, to prolific indies such as Codeglue and high profile powerhouses including Guerrilla and Spil, the famously flat country houses a rich and diverse games sector that has positioned the nation on the global development stage.

The reason for the Netherlands' international standing? According to Maarten de Koning, MD and co-founder of Dutch studio, consultancy and funding outfit Green Hill, it's a factor that transcends the games industry in isolation.

"Historically, the Netherlands has always been an international player," he says. "People are brought up and raised with this heritage. Speaking two or more languages is standard, as is working with different cultures. Healthy businesses are a result of this, and definitely a strong point in the fluctuating and fast changing industry we're in. Working with different kinds of parties internationally is definitely one of our biggest strengths."

ENTREPRENEURIAL SPIRIT

There's also a chorus of Dutch developers keen to point to entrepreneurialism as a national forte, and many see that spirit as a foundation for the Netherlands games industry as a global player, despite the country's relatively small size.

"We are entrepreneurs, and as such we are very capable and willing of starting our own companies," asserts Thijmen Bink, CEO and technical director at creatively daring Dutch indie Digital Dreams, before detailing some of the region's other strengths. "We have games studios that have been around for over a decade, and they share their experience and opportunities with the younger ones. The Dutch government is also becoming more aware of the economical importance of the game industry, and acts accordingly."

Bink is clearly optimistic, and he's not alone. Knock on the door of almost any Dutch developer – and particularly those in the indie and mobile space that is clearly a specialty of the country – and you're likely to be greeted by somebody poised to sing the praises of their homeland.

An example is Marcel Pordon, CCO of mobile and social specialist Youdagames, who highlights both entrepreneurship and a flair for design as archetypically Dutch attributes, before addressing other strengths of the country.

"Like always, the Dutch aren't afraid to look further than just their own borders," he states. "Creativity and design in general are some of the most important strengths of the Dutch, and that is also reflected in game design, which is also stimulated by good games education."

FOREST GALAXY
3
COWBEA

Cowbeam by Dutch indie Digital Dreams

GOING DUTCH

Tempted by a move to work in the Netherlands? The nation's industry is ready for you

A move to the Netherlands is a tempting proposition.

The country's games industry is prospering, its language barrier is offset by a nation of English speakers, and culturally it is famously accepting.

What's more, there's plenty to help those from outside the country to set up home in its vibrant cities.

"There are a lot of expats living and working in The Netherlands and the games industry is no exception to this," confirms Derk van Wingerden, project manager at trade body Invest Utrecht. "There are special arrangements, like the Knowledge Migrant Ruling, to make attracting talent from overseas easier."

What's more, those moving to the Netherlands for work get a 30 per cent tax break to make moving to and living in there easier; a proposition likely to attract many to the country.

And for that very reason, studios like Codeglue are perfectly familiar with welcoming new colleagues from far and wide.

"Codeglue always had a fair amount of employees and interns from overseas and we've never had any complaints about our country. So it must be somewhat OK," says CEO Peter de Jong, with a dash of tongue-in-cheek humour.

A high number of trade bodies also bolster the Dutch games sector, including the Dutch Games Association.

"The DGA's mission is to create a healthy climate for the Dutch games sector," explains Peter de Jong, CEO and co-founder of developer Codeglue. "It does so, amongst others, by stimulating entrepreneurship and forming an active lobby towards the government and other trade sectors. Like the Dutch games industry, it's a pretty young organisation, but in the last couple of years it has achieved a lot."

Other's point to the substantial volume and robustness of indies in the country as core to the might of the Netherlands.

"There are dozens of companies who know how to make innovative games," says Derk de Geus of studio and Unity Asset Store content provider Paladin. "They seek each other out for advice and feedback. They are lean and agile, and know how to adapt to changes in the environment. They have street smarts and they are willing and able to take risks."

And it is there that de Geus has hit on a point that almost every Dutch developer agrees with; collaboration and cooperation is something the country's games industry does especially well, in part due to the nation's modest landmass.

WORKING TOGETHER

"Because of the relatively small size of the Dutch industry there is a lot of cooperation, both in technology and personnel," says Derk van Wingerden, project manager at trade body Invest Utrecht. "You see this amongst others in the formation of the Dutch Games Association and at events like Indigo and the Festival of Games."

And that devotion to a collaborative effort extends beyond the boundaries of the games industry, in part due to a cultural habit of establishing media hubs at a rate seen less often in other countries.

"As an example, Paladin is located in a redesigned factory in The Hague," offers de Geus. "We share this amazing location with 100-plus creative companies: architects, product designers, web start-ups, games companies. We can learn from these companies and collaborate with them. This is a good foundation for services like serious titles and brand games. There are dozens of locations like this in the Netherlands - no wonder that there is a growing 'applied games' community here."

> ***"We're one big family. There is a large group of devs and people that come to every event there is."***
>
> Thijmen Bink, Digital Dreams

Certainly visitors to events like GDC can see the closeness of the Dutch games community that gathers for such occasions, and despite a friendly rivalry, some confess serves as a fuel for their dedication to games making. Time and again words like 'family' are applied to the companies spread from Maastricht to Leeuwarden.

"We're one big family," confirms Digital Dreams' Bink. "There is a large group of devs and related people that come to every little event there is. We are happy to show each other our prototypes and lovingly share experience, advice and connections."

While Bink admits this is the case in many other games development hubs, he insists it occurs on a much more regular basis in the Netherlands.

A perfect example of such a collaboration is that shared by indies Codeglue and Sparpweed.

"Because there are so many smaller development studios there's also a lot of collaboration between them," says Codeglue's de Jong, whose studio worked

▶

Codeglue's download hit Rocket Riot

CLEVER CLOGS

As the Dutch games industry blossoms, games education is having to move fast to keep pace

Dutch educators have been quick to recognise the potential of University courses in games design and development. And as a result, the Netherlands dev hub is reaping the rewards.

"The emergence of several high quality educational programs on game design in the last decade has contributed to considerable growth," offers Martijn van Best, communications manager at trade body Dutch Game Garden.

Indeed, a number of alumni from Dutch educational institutions can count themselves among recent nominees or winners at the IGF awards. These include *Super Crate Box* studio Vlambeer, *Paper Cakes* creator HUSCK and *Dinner Date* developer Stout Games.

And yet such rapid uptake of games courses can be troublesome. Many argue that while art colleges and their contemporaries are targeting games-related courses with ferocious energy, the vital higher technical institutes less readily embracing game-specific courses.

"The courses are good, but with hundreds of game designers flooding the job market each year, you can wonder if this is the best approach," says Maarten de Koning, MD and co-founder of Dutch studio Green Hill.

(From top to bottom) Paladin's Derk de Geus, Green Hill MD Maarten de Koning, Infinity Lane CEO Tim Vogel, Codeglue's Peter de Jong, Digital Dreams CEO Thijmen Bink, and game director of business development at GamePoint Rik Haandrikman

Facilities like those offered by Gameship and GameAcademy (above) have seen serious gaming proser in the Netherlands

with Sparpweed on a PlayStation Network game game called *ibb & obb*.

"Sparpweed is responsible for the concept and design of the game, and Codeglue is responsible for the technical implementation and the animations," explains de Jong. "I think more studios in the Netherlands are working alike."

MOBILISING SMALL STUDIOS

It is, however, unrealistic to paint a wholly positive picture of today's Dutch games industry. As in any country with a blossoming development sector, the Netherlands faces challenges, especially for smaller studios looking to establish themselves locally before taking their product worldwide.

"Our home market is tiny, which makes it difficult to bootstrap your way to success," admits Rik Haandrikman, director of business development at GamePoint, a Netherlands-headquartered online portal. "The rise of mobile and social gaming has made life quite a lot easier though; you don't need to be in the US to develop a game that can keep millions of Americans entertained."

And, says Tim Vogel, CEO at mobile and serious gaming studio Infinity Lane, the country can offer less jobs than there are eager and trained post-graduates.

"The size of the industry and country is a big challenge here," he states. "There are a lot of games development students graduating each year with only a handful of jobs available. This makes it difficult for students to find internships or jobs within the Netherlands."

HOLLAND OF OPPORTUNITY

Still, the opportunity available to those in the Netherlands easily matches the challenges, and as a result a balanced perspective prevails.

"The current market is changing fast and key players are focusing on a wide variety of platforms like mobile and cloud gaming," says Green Hill's de Koning. "This uncertainty, the fact that even publishers don't know in what to invest, is something that has an impact on our future as well. Luckily, Dutch developers are strong on mobile and can adapt quickly. Therefore I think our future is bright."

> ***"Dutch developers are strong on mobile and can adapt to changes quickly. Therefore I think our future is bright."***
>
> Maarten de Koning, Green Hill

The last word, however, goes to Invest Utrecht's van Wingerden.

"I think our games industry has a bright future ahead," he concludes. "In a quickly changing landscape chances keep on presenting themselves. Games have proven themselves both in the field of entertainment as in the applied games. Now is the time to professionalise and grow companies in a sustainable way."

A SERIOUS MATTER

One of the lesser know attributes of the Netherlands development sector is its knack for serious gaming.

"The games industry in the Netherlands is very much focused on serious gaming, especially in the North," suggests Albert Sikkema, director of serious gaming outfit GameAcademy. "As serious gaming is booming at the moment, a boost to the gaming industry can be expected. There are quite a few facilities in the Netherlands. In Leeuwarden we have Gameship (*pictured above*), which is a big game development studio, specialised in motion capture."

And, insists Sikkema, the Dutch games dev ecosystem has plenty in place to support a serious games sector that he believes has a bright future.

"Education in the Netherlands for gaming is at a high level," he says of the potential serious gaming can tap into. "Students particularly learn to apply their knowledge. They are very much self-reliant and are used to working in teams."

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Dare to be indie?

The organisers of the Dare to be Digital student game design competition have launched a new festival for independent developers and those considering setting up a studio of their own. **Will Freeman** finds out more

The Dare ProtoPlay event in full swing (top), event organiser Elaine Russell (middle), and UKIE CEO Dr. Jo Twist (bottom)

THE DARE TO BE DIGITAL student games development contest is now an established part of the annual industry calendar.

It pairs aspiring developers with industry mentors, and gives the teams nine weeks to create a working game.

The ultimate prize is a chance to grace the stage and accept an accolade at the fully-fledged Video Game BAFTAs; an immense opportunity that typically takes the best in the business many years of devotion.

This year at the Dare ProtoPlay event, that serves as a meeting point for the Dare to be Digital teams and a panel of industry judges, a new element has been introduced, named the Dare Indie Fest.

Designed to bring together independent studios, funders, publishers and commissioners, the three-day gathering serves as both a networking event and showcase of UK indie gaming's newest talent.

"Dare Indie Fest is looking to expand Dare to be Digital even further, bringing practical advice from internationally successful companies to indie games developers," said Dare to be Digital project manager Elaine Russell. "It'll be a great opportunity to make contacts and do business, as major publishers and funders like Channel 4 and BBC Worldwide will be there to meet indies and hear about their new games."

Speakers at Dare Indie Fest include Colin MacDonald, games commissioner for broadcaster Channel 4, Hilmar Veigar Pétursson, chief executive of Eve Online studio CCP, Chris Wright, CEO and co-founder at data experts GamesAnalytics, the executive producer of gaming at BBC Worldwide, as well as numerous others yet to be announced.

According to the organisers, the event is shaping up to be something of an essential diary date for indies, start-ups and even those yet to dive fully into the world of running their own studio.

> ***"Dare Indie Fest will help small businesses to understand how they can make the most of their game ideas."***
>
> Elaine Russell, Dare Indie Fest

"Dare Indie Fest will help small businesses – as well as students and graduates thinking of starting a business – to understand how they can make the most of their game ideas," explains Russell.

"We're bringing together a great deal of insight on the technology and business challenges indies face, so they can learn practical steps to take away and apply at once to their company or new game idea."

The event will also incorporate a special tax breaks briefing session hosted by UK trade body UKIE, to give local devs the chance to provide their input into the UK Government's on-going tax breaks consultation period.

"We're proud to be sponsoring Dare Protoplay as it consistently showcases the very best new games talent in Britain," said UKIE CEO Dr. Jo Twist. "UKIE is helping to improve the flow of skilled graduates who make it into the UK games industry through its Next Gen Skills campaign, but we also need to make sure that we have the best possible tax breaks system in place.

"That's why we're holding a tax breaks briefing session at Dare Indie Fest; to give local businesses the chance to have their voices heard."

Additionally, long-time Dare partner BAFTA will also bring its popular BAFTA Games Question Time panel discussion format to Dare Indie Fest.

"Dare Indie Fest is just the next step for us," concludes an optimistic Russell. "Dare to be Digital breaks students into the industry every year. Now we're bringing them, and all indies, the practical knowledge to run your own successful, sustainable games development business."

As part of Dare ProtoPlay, Dare Indie Fest will be held in Dundee's Caird Hall on August 10th to 12th this year.
www.daretobedigital.com

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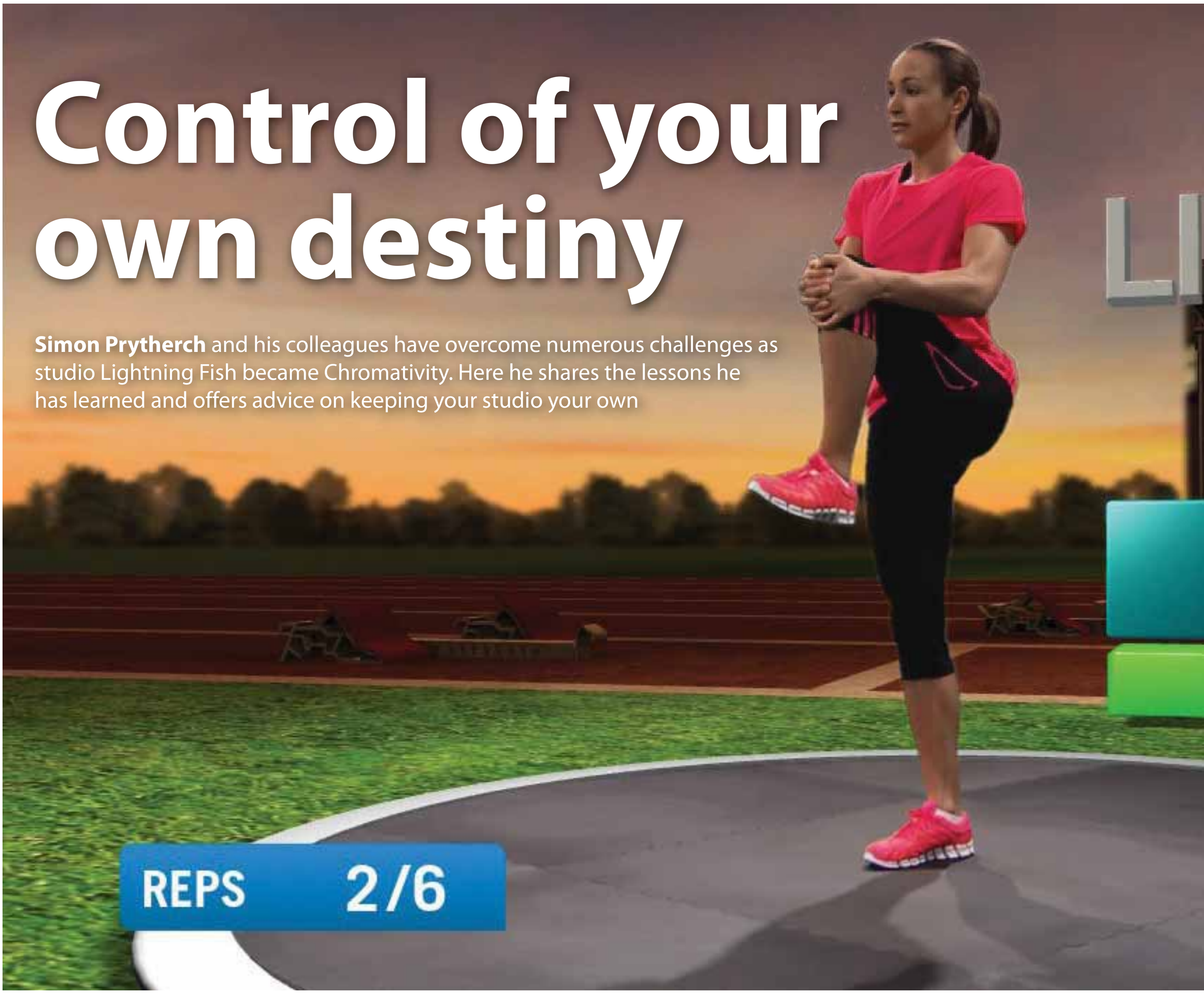
Two great conferences, with great keynote speakers like Peter Molyneux

Control of your own destiny

Simon Prytherch and his colleagues have overcome numerous challenges as studio Lightning Fish became Chromativity. Here he shares the lessons he has learned and offers advice on keeping your studio your own



Simon Prytherch says having multiple projects – such as Adidas miCoach – (above) is vital to a studio's survival

I AM CEO at Chromativity, previously known as Lightning Fish.

We have been through a difficult year and have completed a management buyout in which we have returned the control of the company to the founders.

Here is my list of do's and don'ts of running a successful games developer.

SET YOUR COMPANY STRATEGY

I am not a fan of detailed hundred-page business plans, but you do need to have clear aims.

This is your company's strategy and is important for investors and your team. You can split this into short term (less than six months), medium term (less than two years) and long term (more than two years).

This is not something you do once and forget about. I suggest every three months you re-examine based on new information and opportunities. Strategy is important because it defines the activities of the rest of your company. Designers can focus on the games that fit these strategies and then the dev teams can implement them.

For example, at the beginning of 2011 we decided to expand our motion gaming into other genres/platforms, plus establish a mobile team to focus on sports strategy games. 18 months later we are starting to see the results.

FIND YOUR NICHE

I think one of the key strategies for a small developer is to identify your niche and then exploit it. Look at your strengths and where you can make your mark. Try to identify markets or trends early.

As an example, when we established Lightning Fish we setup the studio specifically to concentrate on motion gaming. We knew we could not compete head-to-head with the larger studios in more traditional genres such as driving and shooting.

Shortly after starting development of our first Wii title we started looking at web cams for tracking movement. This research brought us to the attention of Microsoft and Sony. They invited us to work with their very early prototypes of Kinect and Move. We then went on to develop a launch title for both platforms. That in turn allowed us to go on and work with Adidas, the result of which is *Adidas miCoach*, released this summer.

As we work on new platforms such as PC, smartphones and tablets, the main criteria is 'Can we make a impact?'. We are still fairly small, so we need to make sure our limited resources are used efficiently.

SEEK OUT ALL SOURCES OF FUNDING

There are many sources of funding accessible to a young company including investors, publishers, friends/family, crowd funding, grants and loans.

Don't forget about friends and family; at the start they might be the only ones that have complete faith in you and will not demand a huge slice of the company.

Look at all the sources of grants and decide which ones you should apply for. This is 'free' money, but it does require a lot of preparation and paperwork. Typically, a grant will take six months from the moment you start preparing for it until you receive the first payment. The most appropriate UK grants are administered by the Technology

Strategy Board and The University of Abertay in Dundee.

The TSB run various competitions and you should check their site regularly; some will require collaboration with a university. Most importantly, look at the Smart scheme – formerly known as Grant for Research and Development. This has three levels of funding: Proof of Market (<£25k), Proof of Concept (<£100k) and Development of Prototype (<£250k).

Abertay runs the prototype grant funding for start-ups and small businesses. This gives a grant of up to £25k for developing a prototype of your own intellectual property, a great way to get funding for a game demo.

Is it worth looking at crowdfunding models like Kickstarter? You need to have a strong following to have a good chance of success: a very experienced team that are well known for the type of game you are going to make, a famed personality at your studio, a brilliant pitch or video, a sequel to a fondly remembered game and a great idea.

As an example, Mike Montgomery from the Bitmap Brothers is our development director, so perhaps we should look at developing a sequel to one of the Bitmap's great games.

Work-for-hire is a great option of financing your team and getting valuable experience on the right platforms/genres. Any spare time can be used to design and develop your own IP. Approach publishers for work for hire, but the best option will often be the larger developers in your local area.

DON'T GIVE AWAY EQUITY LIGHTLY

When you are starting-up you often need to raise capital. The problem is that your company is not worth much so any external investors will require a large slice of your studio. If you definitely need the external investment to implement your plans then go into it with your eyes wide open.

Never give away control, so retain more than 50 per cent for the founders. You as the founders of the company have a clear vision and should be trusted to carry that out. Otherwise, why are they interested? After all, in those early stages it is the management team that they are investing in.

At some stage you will need to raise further money and to do that you will often need to give away more equity, so keep some back. Early investors can become less relevant, as the company outgrows them; in those circumstance you may need to buy them out to regain control.

> **“Even if you are a small company approaching a very large global corporation, if you have the right background, enthusiasm and idea anything is possible.”**
>
> Simon Prytherch, Chromativity

DO NOT PUT ALL YOUR EGGS INTO ONE BASKET

You need multiple revenue streams to survive the ups and downs of business. This ensures that if a game fails to sell as per your forecast, or if the project is cancelled, then you have other options.

Ideally a small studio needs at least three sources of income at any one time to become robust and secure. Chromativity currently has in development a console title, a PC title and a smartphone/tablet title.

We learnt the hard way. Last year we had two major projects and both were cancelled. We will never again allow one or two projects to support the whole studio.

I am continually looking at new opportunities and making sure our dev teams have continuous work to keep revenue flowing. This is a full-time task for someone at your studio, usually the CEO/MD.

DON'T FORGET FINANCIAL PLANNING

Budgets, cash flow, balance sheets and profit and loss might sound boring and send you to sleep, but it is so important that you pay attention to these things. After all, a business has to make money or it does not exist. You want to concentrate on making great game, so recruit someone to do this for you – a financial controller or financial director. You will be surprised how much you will learn from them, and it will free you from the stress of the financial minutiae so you can concentrate on the bigger picture.

OWN IP

The only real way to increase the value of your company significantly, is to own your own intellectual property. This can be games or underlying software technology, or preferably both. You will almost certainly need to do some work-for-hire to help with cash flow, but at the end of the day that only gives you short-term experience and cash. Keep working on your own games and technology in the background, so that one day you can reap the benefits.

CULTIVATE PARTNERSHIPS

There is only so much a small developer can do with their limited cash and resources. Assistance from key partners will add to the production value of your game. These could be brands, people, other dev/service companies, publishers or investors. I will give you a couple of examples.

We decided we wanted to make the ultimate fitness title. It would not only use the latest Kinect and Move technology in your living room, but would track you wherever you went – the gym, for a run, cycling or just walking the dog in the park. We decided that Adidas would be a great partner for this and approached them directly. Fortunately for us they were also thinking along the same lines and *Adidas miCoach* for consoles was born. Even if you are a small company approaching a very large global corporation, remember, if you have the right background, enthusiasm and idea, anything is possible.

When we wanted to make a new type of football game for mobile, we wanted to add some authority. We approached Andy Gray and Richard Keys, as their voices give that quality feel to any football title. They have also been a great help in designing *Fluid Football* and have even invested into the project. Their recent Sony Academy Award for the Best Sports Radio Programme adds further impact to their involvement.

My advice is to keep talking and networking with people and other companies, especially developers and service providers from your county. If you want to make the best games then you need to collaborate with companies that provide code, graphics, scripts, audio, motion capture, localisation services, film production and data processing. Be creative, maybe they will accept a slice of your back-end rather than having to pay them up front. Or maybe, you can swap technology and services.

To conclude, you should make plans, exploit your niche, get funding from multiple sources, keep control of your company, develop your own IP, cultivate partnerships and do not forget financial planning. Combined with your talent, enthusiasm and drive, this is all you truly need to succeed.

www.lightningfishgames.com

A clear company strategy gave Chromativity a chance to work with Addidas on miCoach, says Simon Prytherch (above)

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Developing by numbers

Can using data analytics really give you creative freedom? Is ignoring the power of data crunching suicide for a contemporary studio? **Will Freeman** asks the developers and statisticians playing the numbers game

Game analytics have become increasingly crucial for social and mobile game studios as they look to maximise revenues by creating a polished experience

NOT SO LONG ago, the day a game was released marked the effective end of its developer's effort.

Today, in a world where social functionality, DLC and in-game purchasing are as everyday as loading screens, that has all changed. A developer's work is never done, and long after release a project can be tweaked and updated.

This is where analytics comes in. In a world where the options open to studios adjusting games post-release are theoretically infinite, something needs to be done to help devs make the right refinements.

"The development process in social games doesn't end with the launch; instead the focus shifts to on-going optimisation of the game and the player experience," offers Matt Begley, data analyst at studio Playdemic, which is behind Facebook title *Gourmet Ranch*. "This is largely dictated by knowledge gained via analytics, and the feedback that this provides on both our games and the way our players interact with them. But it's crucial to remember that access to the data is only ever half the battle."

And already Begley is at an issue core to the very concept of games analytics. The data you gather – be it on mechanics of interaction within a game or efficiency of monetisation models – is all-important, but it is the method of interpretation of that information, and the response to it, that truly defines the worth of the analytical process.

NO MORE MR NICETY

In the realm of social gaming in particular, analytics has moved from nicety to necessity, and it's a daunting task for developers faced with not only gathering data, but sifting through it for meaning. Fortunately, a wealth of analytics outfits – backed up by statisticians – now exist to support studios who would otherwise drown in their own sea of numbers.

In reality, the process is a contemporary extension to the act of surveying, playtesting, QA and working with focus groups. Games analytics, however, offers a far more precise art, and one increasingly available to a greater variety of studios and platforms. It's also something of a black magic; misunderstood by many and even avoided by some, even though sectors like online retail and consumer banking have used it for years. And yet, say the analytics experts; it remains a relatively simple concept.

"For us, the most important role is to provide a window into the performance of our games on a number of levels, as well as the studio as a whole," says Begley of the studio at which he works, which has crafted its own analytics technology. "Indeed, the role of analytics has many different connotations, depending on the department you visit. The significance of analytics for top level management may be to simply monitor

THE STUDIO LINE

While analytics service and tech providers proliferate as social and online gaming continues to infatuate consumers, there are still numerous studios coming up with their own solutions to extracting meaning from the data their games generate.

One such studio is Playdemic, creator of Facebook title *Gourmet Ranch*, which has crafted an elaborate proprietary analytics system. And their motivation for doing so?

“Fundamental to our system is a fail-safe method for transferring data from our games to the central analytics servers which we developed in-house,” explains Matt Begley, data analyst at the studio.

“The lack of such a system was one of our main issues with the third-party analytics platforms: building it into our own system from the start ensured that we’d always have complete confidence in the accuracy of the data that we hold.”

The freedom from dependency from another company will certainly appeal to many independently minded studios, but creating an analytics system is no easy task, and many would do well to recruit an expert into their team if they wish to establish their own solution.

Gourmet
RANCH

Playdemic created its own propietary analytics tech for its Facebook title Gourmet Ranch to ensure the data it received was completely accurate

the progress of the studio, whereas the importance of analytics to individual games teams and their managers is to provide a much more granular level of detail – whether that be design, monetisation, retention or acquisition focused.

MONEY TALKS

And at analytics’ core? Most agree it’s about making money. For the vast majority in games development, bills need paying, so whatever their creative pretentions, the fruits of their labour need to bring in cash, which is where analytics can help most.

“Of course, the core or base driver of analytics is financial,” states a frank Christian Lavoie, creative director at analytics and development outfit SetGo. “Either you are trying to understand your players to better entice them with virtual goods – the more well-known approach – or you could just make future development more financially efficient by gaining awareness of what people do or don’t do in your games – the less talked about approach.”

There’s a sense across much of the online, social and mobile gaming space that too often much of a game is never seen by a player, especially considering many turn their backs on a given game strikingly early.

“This means you invested money and effort into something that hardly anybody saw,” explains Lavoie. “Good analytics allows you to see how far your players got, and maybe discover why they lost interest when they did. These insights would allow you to make informed decisions on software updates and/or offer considerations for your next project.”

> ***“Good analytics allows you to see how far your players got, and maybe discover why they lost interest when they did.”***
>
> Christian Lavoie, SetGo

CREATIVE THINKING

In that context, analytics sounds like a worthy part of the development process. But can developers creating and updating games as dictated by numbers balance their obedience to data with true, liberated creativity? Or does analytics, as some suggest, stifle creativity?

“I actually think it’s the opposite,” says Catherine Mylinh, head of content marketing at Kontagent, which recently launched the kSuite DataMine as an add-on to the popular kSuite analytics platform. “Analytics forces a game developer to be more creative because they have to work within the confines of data.

“But, I understand the cynicism. Games developers need to monetise their players in order to keep producing new games and features. That’s why it’s so important to understand the value of your design decisions and marketing campaigns. So yes, there is an element of making money – but that doesn’t necessarily mean that it stifles creativity.”

In fact, for some in the business of gathering data, the process of creativity and moneymaking are not so separate.

“They are not mutually exclusive,” insists Chris Wright, CEO and co-founder of data measurement specialist GameAnalytics. “The way to be successful is to build environments that maximise user enjoyment. That requires plenty of creativity. Analytics helps developers understand not all players are the same; they have their own competencies, like different features and have unique motivations.”

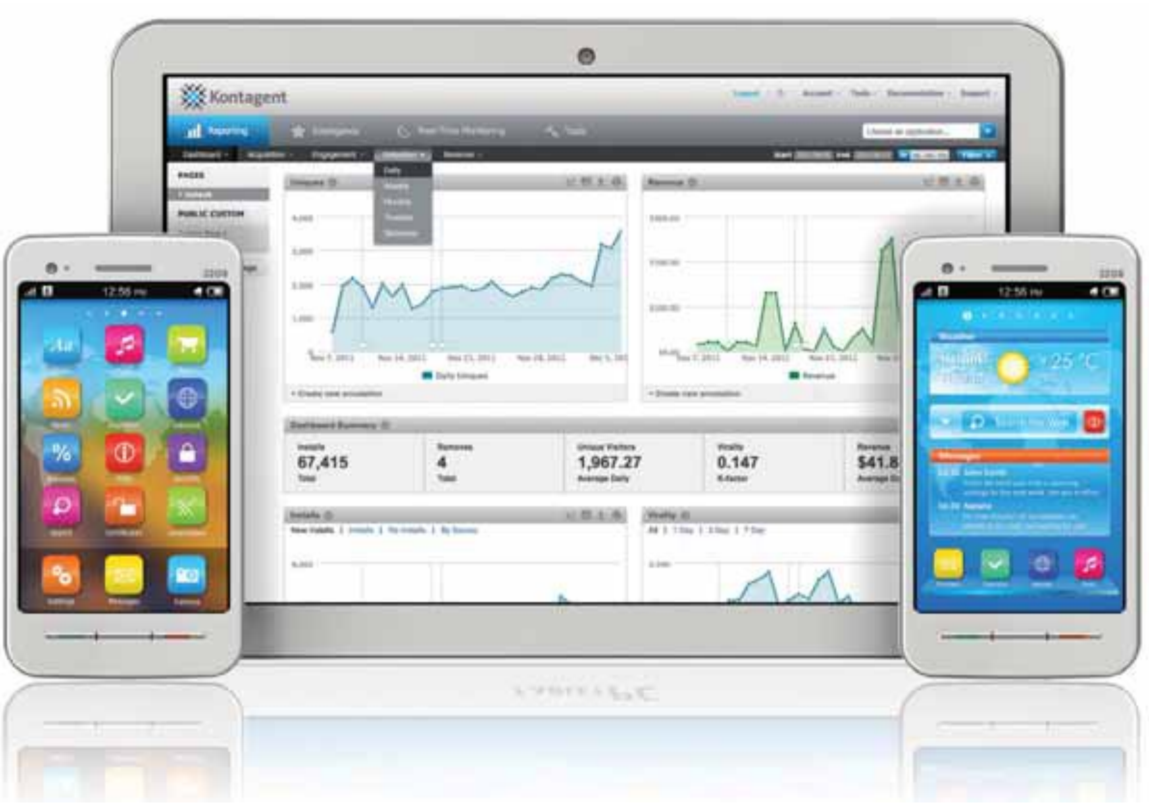
According to Wright, the bond between creative, analytics and moneymaking is quite simple. Players spend money on good games; ones that bristle with creativity.

“The single most predictive metric for someone spending money is that amount of time they spend playing the game,” he says. “If you don’t have a game that someone wants to play, they won’t spend any money, it’s as simple as that.”

Another take on the matter of developing by numbers is that devs would do well to embrace the need to make money. After all; there is nothing wrong with doing exactly that.

“There should be no shame in wanting a business to grow and do better,” suggests Peter Farago, VP of marketing for mobile analytics specialist Flurry. “Once a company has a hit mobile game, they get the opportunity to try to make more of these. It’s special and rare in hit-driven business. And we don’t see analytics taking away from creativity. Rather, they allow game designers to understand how well their creations engage, retain and monetise users.”

Top-to-bottom: Lee Heir of Playmetrix, Mark Robinson from GamesAnalytics, Matt Begley of Playdemic, and Flurry’s Peter Farago



Kontagent's analytic toolset in action (main image), and (top-to-bottom) Kontagent's Catherine Mylinh, Chris Wright of of GamesAnalytics, and SetGo's Christian Lavoie

TOOLS OF THE TRADE

In that context, analytics are a tool for giving your customers more of what they want. There will no doubt be core indies and academic coders with no interest in bending to the whim of consumers. But for many the concern is building something that is well liked.

And, to do that, some analytics experts believe data capture should be put in place from the moment a game blossoms from its very first concept stage, to assure critical success; Metacritic's impact on the industry is testament how important that is.

"We believe in the use of gameplay analytics throughout the entire development cycle of a game, from QA to Beta Testing to demos, release and beyond," states Lee Heir, producer and product manager at Playmetrix. "Our system has also been used to help track the usability of games, shape DLC design and determine the profitability of virtual items. There is massive potential for developers when using analytics throughout all aspects of game development, not just the financial aspect which in the past has been the automatic conclusion when bringing it up in discussion."

Certainly, developers are warming to the idea of integrating analytics into their pipelines and workflows (*see panel 'The studio line'*), but there remains scepticism about welcoming analytics into the world of games making. Often the giants of social are derided for their intense devotion to the law of data – to the point outfits like Zynga and Gaia Online are sometimes painted as being statisticians before developers.

For some developers, the issue appears to be a simple matter of being overwhelmed by the numbers; both in terms of the sheer volume, and the task of gleaning anything useful from the stream of data.

But a turnaround is coming.

"There has definitely been more of an acceptance," says Heir of changing attitudes towards analytics. "With the market ever-growing, unless a developer has been successfully working on a single franchise or genre of game for years, it is harder than ever to know your players. Companies are beginning to realise that players know best, and if a developer's name is being passed around by the gaming community as a company that listens to their players, this is a win-win for both developer and player."

> ***"You can look at forums for feedback but the vocal are always the minority. It's the bigger number you want to be pleasing."***
>
> Lee Heir, Playmetrix

That may be the case, but still the issue of correctly interpreting the data remains perhaps the most significant challenge facing those studios that pursue player-generated data.

"A lot of people think that if they simply have access to the data, they can make a better game. They think they can learn everything about their players, design the game with all kinds of actions and events and it will all magically appear in pretty graphs to show them precisely what's happening," says Kontagent's Mylinh. "Knowing which metrics are important, and how to represent them in a way that your entire organisation can take action – that really takes a lot of expertise."

Happily, there is some help for developers keen to learn how to read data. Flurry, for example, offers a number of education programmes conceived to help developers that are without their own in-house analysts, while others continually craft new ways to extract clear information from data.

"We are constantly augmenting our statistical techniques to uncover key insights from the data at the detailed player behaviour level, and this offers an exciting opportunity to tailor and personalise games in real-time," explains GamesAnalytics' COO and co-founder Mark Robinson. "This could be actions such as offering inventory prior to a undertaking a quest or delivering a tailored tutorial at the right time for players who are struggling, all the way through to deploying relevant NPCs or creating special products to customise your avatar. All of these marketing treatments are specific and personal to better optimise the experience for the player."

HERE TO STAY

That means that, for now, games analytics companies are here to stay, not just gathering data, but turning it into meaningful information. And now they are starting to help smaller studios taste the numbers.

"Regardless of company's size or the size of a game's user base, understanding usage behaviour is invaluable and critical to growing an audience of any size," says Flurry's Farago. "Flurry just makes it easy, free and accessible for any game studio to enjoy the full benefits of a robust analytics service."

And Flurry is not alone in extending an olive branch to indies and small-to-medium sized studios. Playmetrix makes its service free at entry-level, identifying those with less numerous headcounts and budgets – and start-ups – as perfectly positioned to take advantage of the perspective analytics can grant them.

"Metrics can benefit start-ups because of the fact they can see what the majority of their players want," says Heir. "It's no longer a blind process. You can look at forums for feedback all day long but the vocal are always the minority. It's the bigger number you want to be pleasing."

In spite of this, incorporating analytics into their workflows remains a challenge for even the most devoted of the smaller studios.

"It's more of a challenge for smaller companies because you do need to spend some time on it," claims SetGo's Lavoie. "Bigger companies who haven't already designated someone to an analytics specific role soon will, but for smaller companies it's something we're seeing being adopted by a combination of people on the team."

And, fortunately, there is hope for even the smallest studios still bewildered by the task of translating player behaviour into new design directions.

"The good news is that analytics can be used in one-man dev projects if they want," concludes Lavoie. "You do not have to be a statistician to understand analytics. All you need is a curious mind, the ability to reason when evaluating results, and the willingness to learn."

Those three quality's, at least, are one thing most developers have in abundance.

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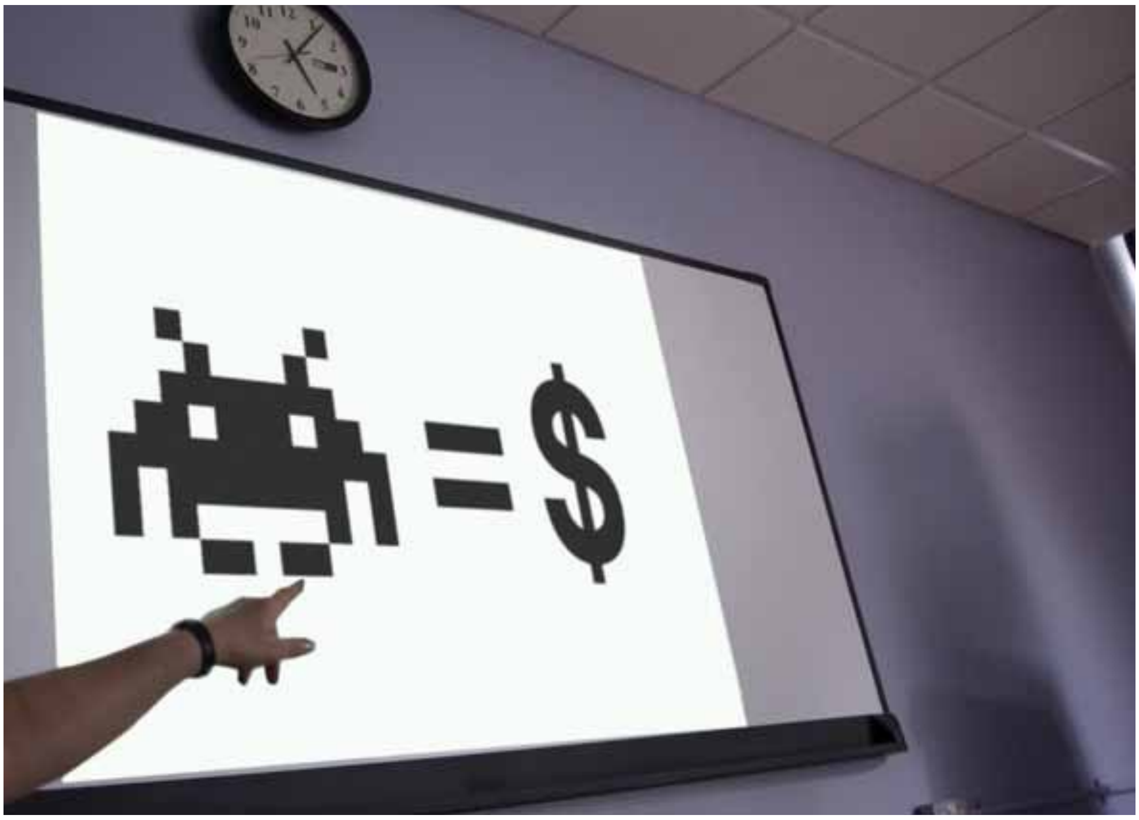
Pitch perfect

Digital Capital co-founders **Stewart Kosoy** and **Todd Tribell** know all about developers looking for funding; they've been an audience to hundreds of pitches. Here they offer a wealth of advice on convincing potential investors



Developers must clearly define how their idea will generate revenue, as investors are primarily interested in the game's bottom line, say Digital Capital co-founders Stewart Kosoy (middle) and Todd Tribell (above)

THE EXORBITANT costs of developing software on traditional platforms, combined with the explosion in the mobile-app market, has created a significant industry shift.

Consequently, the emergence of an enormous mobile and social app-user base has fueled a new generation of publishers who cater to the independent developer.

As a result, the requirements from both publishers and developers have rapidly changed. But one thing mission-critical to bringing software to the market hasn't; the need for finance.

Outside firms are becoming more prominent and are making financing available in a variety of forms. The requests for those funds are equally as diverse. As you can imagine, we have heard a pitch or two; actually hundreds of them. Here are some basic axioms to presenting your ideas and concepts that could significantly increase the likelihood of securing both the funding and support you need in order to bring your idea to market.

KNOW WHO YOU ARE PITCHING TO

Find a financier who you believe is right for you and your idea; then make an appointment. Don't show up unannounced. Tailor your presentation to the person you are pitching. There is a difference between a producer, a traditional publisher or angel investor. Each of these decision makers will have a different set of primary requirements that need to be satisfied.

BE SUCCINCT

Everyone knows the old adage 'time is money'. Many people you will pitch to hear hundreds of ideas each year. Yours should prominently stand out, as it will undoubtedly be one of many. Don't get tied up in the details of game design and other minutia. When you see a glazed look come over their eyes, you've lost them.

> ***"It is very difficult to attract an investor if the only way for them to make a profit is to unseat the top of the sales charts."***
>
> Kosoy & Tribell, Digital Capital

Present your concept in six-to-nine bullet points; why it is unique; and how you envision successfully generating revenue. This is the fastest step to securing a more in-depth follow-up meeting.

KNOW YOUR COMPETITION

Knowing you have done your homework gives an investor confidence. Being able to discuss the competition; your strengths and weaknesses; as well as why your idea trumps others on the market is paramount.

DEFINE YOUR FINANCIAL POTENTIAL

Clearly define how your idea will generate money. Investors are interested in the bottom line, which is the prime reason for their potential participation in your idea. They are not patrons of the arts and do not consider you a charity. Explain precisely how your idea will earn them money and over what period of time. Do not suggest that your game will generate the same revenue as other top selling titles. It is very difficult to attract an investor if the only way for them to make a profit is to unseat the top of the sales charts.

BE OPEN AND FLEXIBLE

Every investor understands that you have a vision. If your idea is truly interesting and if they are a good investor, they will want you to be vested in that vision. Know what you don't know and be willing to share that with your investor so they can help you. Don't forget the investor has their needs as well. Objectively listening to the reaction of an investor who might offer a different perspective can give you room to manoeuvre and to tweak your pitch, thus giving you an advantage.

Listen to suggestions they have and see if they can help you improve your overall concept instead of holding on too tightly.

Keep that dialogue open. It is appropriate not to always agree with an investor's comment or response, but don't try to change their opinion by being confrontational and getting into an argument.

Leave your ego at home. Investors are looking for partners; and not high maintenance ones. Even if you have delivered hit after hit, when you are in front of an investor, you need their money. Investors are interested in sound business minded ideas and are acutely aware that even the biggest stars can fail. Be humble and be prepared to show what you have done and why your team is right for the job. Don't present yourself as being too big. Investors could be left wondering why you need their investment.

DON'T BE UNREASONABLE

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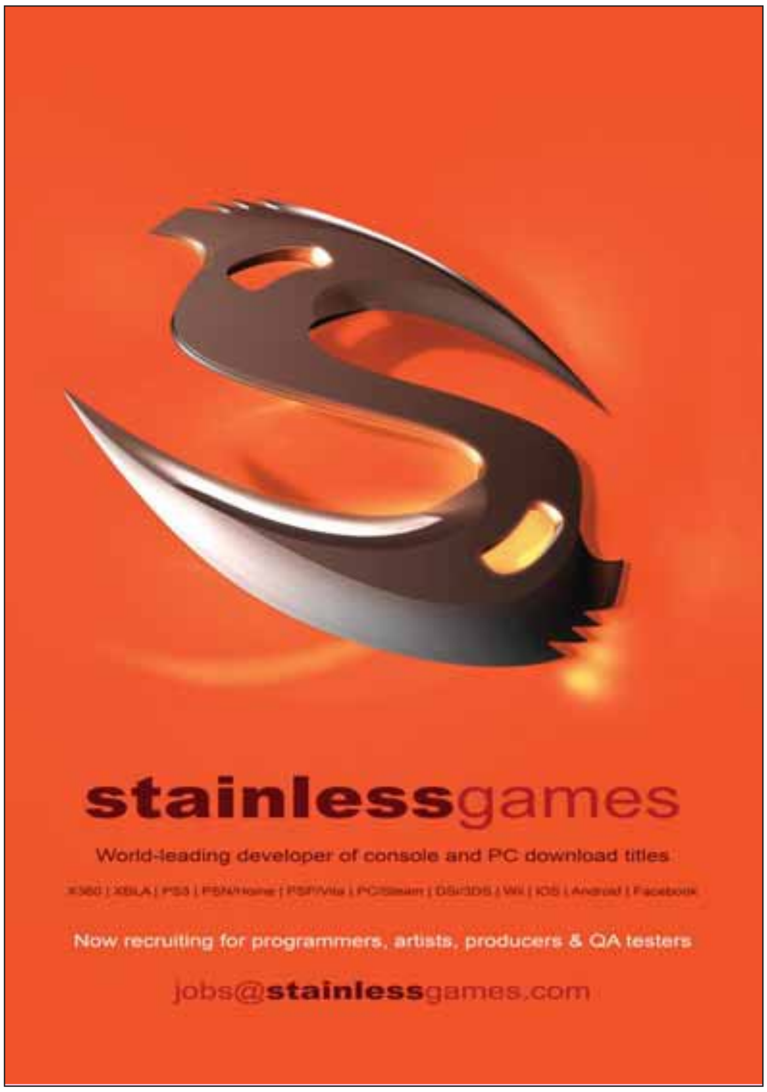

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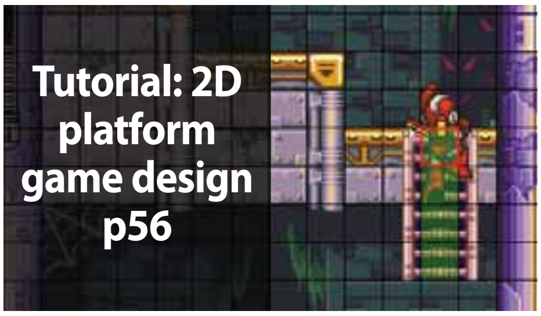

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Driven by social

As games that connect players become a dominant model, a bewildering range of socially-targeted tools are on the market. Which is right for you? p52

Lighting the future p60

Faceware's new tech dissected p63

Tools with friends

With the social gaming space emerging as one of the leading development sectors and revenue generators, **Craig Chapple** talks to the key social tech providers about how studios can successfully harness the tools available

RocketOwl's GreenSpace (main image) is one of many social games to enter the browser and mobile space of late. We R Interactive's Alex Whittaker (middle) and Eutechnyx's Andrew Perella are champions of social gaming

SOCIAL GAMING IS becoming an ever-more prominent subject of interest for both developers and consumers alike.

As browser and mobile platforms rapidly increase in power and are able to attract millions of users backed by highly scalable servers, catering for the huge and profitable sector is proving extemely tempting for many studios.

The emergence of Facebook in 2004 saw the social space dramatically rise in popularity, with multi-billion dollar companies such as Zynga taking advantage of the eager customer-base with titles such as *FarmVille* and *Mafia Wars*. Zynga now employs over 3,000 staff. Back in 2007 it did not exist.

AN EMERGING SPACE

Fast-forward to 2012, and with the creation of the iPhone and numerous Android devices, as well as improvements in the browser space to platforms such as Flash and the ever-improving HTML5, social games are flourishing. With hundreds of millions of potential users up for grabs, those who have the right attitude can now create a mega-hit without going near a console. At the same time, the technology behind the phenomenon has enhanced greatly too.

“A few years is a long time in social gaming,” says Ngmoco UK's general manager James DuBern. “And from a technology point of view we've seen the explosion of Android – with Google Play now taking 30 per cent of revenues, iPhones doubling in power, and the establishment of the tablet industry. There have been seismic changes for a developer to cope with.”

> ***“A few years is a long time in social gaming. There have been seismic changes for a developer to cope with.”***
>
> James DuBern, Ngmoco

Unity's CEO David Helgason says that the nature of social games development for mobile and browser has changed greatly, in line with DuBern's assertions of substantial developments in the space in a remarkably short timespan.

“Until recently no one was using anything but Flash for social games,” he says. “Now we see many new social games being made in Unity for iOS, Android, and Facebook, both through our Flash export and through our native browser plug-in.”

We R Interactive CTO Alex Wittaker agrees, stating that Flash has lost ground in the social games market, despite allowing access to 3D cards, citing the rise of the controversial and oft-criticised HTML5 – as well as Unity and WebGl – as providing what he deems as better options for game creation.

“Within the last two years we have really seen Flash lose ground in this space,” he explains. “Apple's growing dominance and the ascendancy of HTML5, WebGl and Unity have rendered Flash no longer the sure thing it used to be.

“JavaScript became a viable alternative with performance improvements in the browser engines and more powerful target platforms, and is likely to grow more dominant with its adoption for the Windows 8 Metro interface.”

TOOLED UP

With so many platforms to develop on, such a fragmented tech landscape has led to studios clamouring for solutions that successfully allow them to create and distribute their titles onto as many devices as possible.

Tools such as GameMaker:Studio GameSalad, and NgCore through Mobage have been designed to provide easier coding and swift cross-platform distribution, without the need for developers to spend too much time entering new code for each platform.

AT THE CORE

An integral part of creating an engaging and friendly social game comes from its connectivity through social networks such as Facebook, where users can share their achievements and experiences with friends.

Platforms such as PapayaMobile and Mobage provide social APIs and SDKs enabling developers to offer this social engagement through their own services, providing notifications, newsfeeds, chat rooms, leaderboards and achievements.

"NgCore – part of Mobage – offers tried and tested social features that the majority of developers will be looking for, and as a company we work closely with developers to help design and optimise the social experience," explains Ngmoco UK GM James DuBern.

Mobage social APIs also allow users to create their own avatars, a crucial aspect in establishing immersion and characterisation, whilst developers can monitor activity through social graphs and access in-game user data.

PapayaMobile's social SDK, meanwhile, enables customisable challenges between players, and also allows users to recommend their favourite games to their friends through its platform. This is a crucial feature in most successful social games as it can allow a given title to go viral and attract thousands – and potentially millions – of new users.

Head of development at YoYo Games Mike Dailly believes that a fractured market is the biggest problem facing social and mobile developers, particularly where Facebook is concerned, and says that the company's recently released GameMaker:Studio has been designed to help address this.

"It offers a simple solution in that it unifies all the different targets into a single code base, while making simple multi-target output a reality," he states. "The normal development cycle is to write a game or application, then port it to its nearest neighbour – Android to iOS for example – and then sometime down the line, rewrite the whole thing so it can go on Facebook; or vice-versa.

"With GameMaker:Studio's HTML5, Android, iOS, Mac and Windows exporters, you can build content for every platform at once allowing you to maximise not only development resources, but also streamline marketing and promotions."

ENRICHING THE EXPERIENCE

Another feature hugely important to social game developers – and increasingly in all gaming markets including triple-A – is integrating monetisation options and fitting them seamlessly into the gaming experience. This needs to be done without interupting gameplay and creating inbalance, whilst also making sure users can show off their recent purchases to their friends.

Gamesalad's CEO Steve Felter says that in-app purchasing is quickly becoming the best way to monetise free-to-play social mobile games using virtual goods and currency.

"The best way is to incorporate virtual goods into the free-to-play model so that monetisation is seamlessly integrated into the gameplay experience" states Felter. "Purchased items can be designed to have a direct impact on the gameplay, allowing players to show off various things they've purchased to their friends, or purchase items that provide a more satisfying experience."

SCALING OUT

Another important aspect for developers to consider is making sure their title is scalable for a sudden increase in user numbers. Given the large potential user-base in social gaming, word of mouth can spread quickly, particularly through social networks such as Facebook if a game is visible on a friend's profile, meaning developers need to be prepared for vast waves of new players.

Databases in MySQL and NoSQL offered by companies such as Couchbase, which has powered games such as the hugely popular *Draw Something* by OMGPOP, mean that developers can provide a server space to help ensure users have a smooth-running experience with little or no downtime disrupting their experience, which is very important when implementing updates.

"Social games developers need to make many decisions with respect to the software they use to develop their games," says Couchbase CEO Bob Wiederhold. "We think the selection of the database is one of the most important decisions a game developer will make. Making a wrong choice can severely impact a game's performance and scalability, and a developer's ability to rapidly develop and update their games."

Using a NoSQL database appears to be finding favour amongst developers due to its ability to record big data and scale rapidly, whilst MySQL is useful for studios expecting a high volume of micro-transactions.

Eutechnyx CTO Andrew Perella, whose studio is developing social free-to-play racing simulator *Auto Club Revolution*, explains that the adoption of NoSQL databases has allowed games to scale and iterate rapidly without huge costs.

Wittaker adds that these terabyte databases are often found powering social games, with NoSQL perhaps usurping MySQL as the standard for data storage in the sector.

> ***"NoSQL databases feel like they are starting to replace MySQL as the first choice for the start-up studios."***
>
> Alex Wittaker, We R Interactive

"Terabyte databases often sit behind social games. In fact, this data often represents the value proposition in some titles," he explains. "Schema-less [NoSQL] databases feel like they are starting to replace MySQL as the first choice for the start-up. They are naturally suited to 'big data' whereas pushing MySQL into these kind of sizes requires a complexity step change."

Given all the technology that is available to developers on mobile and browser, professionals in the industry are in general agreement that there is great opportunity to create highly technical social games.

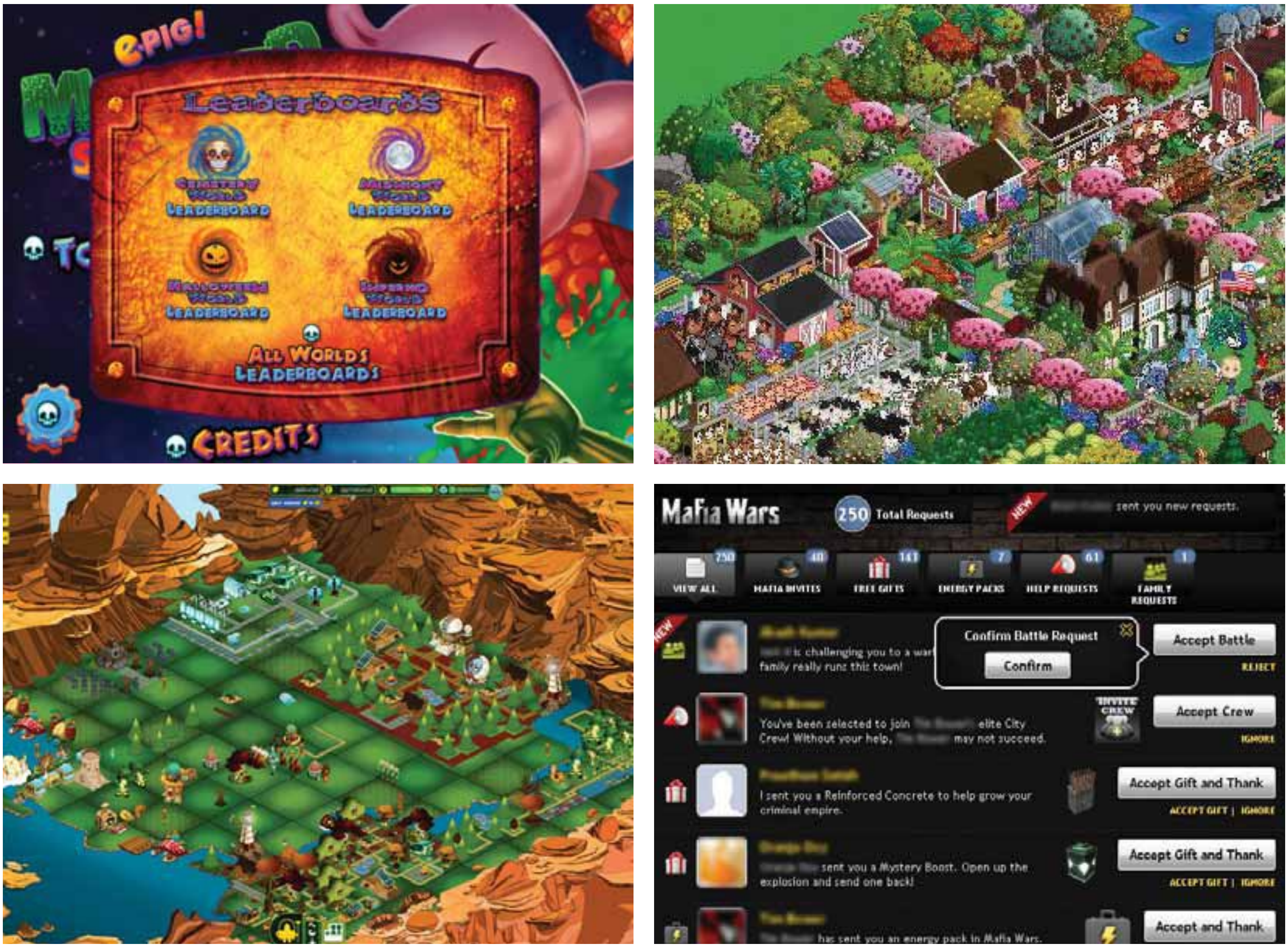
Graeme Barlow, CEO of *Greenspace* studio RocketOwl, says that tech in the sector has now reached the level where developers are largely able to create the games they want to, with tools available in almost every aspect of development and distribution.

"Tools are always the barrier for ambitious developers, even on consoles and PC games," he says. "It's even truer on mobile and social platforms. That being said, we've hit a point in the development of the hardware and the tools that allows developers to do a lot of what they want to. There aren't too many ideas or goals that are thrown off the table completely due to hardware or software limits."

SOCIALLY AWKWARD

But despite such a well-stocked foundation of technology for the sector, there are still many

Top-to-bottom: Couchbase's Bob Wiederhold, David Helgason from Unity, Graeme Barlow of RocketOwl, Ngmoco's James DuBern and Mike Dailly from YoYo Games



[redacted] sent you new requests.

[redacted] is challenging you to a war [redacted] family really runs this town!

You've been selected to join [redacted] elite City Crew! Without your help, [redacted] may not succeed.

I sent you a Reinforced Concrete to help grow your criminal empire.

[redacted] sent you a *Mystery Boost*. Open up the explosion and send one back!

[redacted] has sent you an energy pack in *Mafia Wars*.

Main images, clockwise from top-left: Social games e-Pig Monster Smasher, FarmVilee, Mafia Wars and GreenSpace. Papaya Mobile's Jason Mauldin (middle) and GameSalad's Steve Felter

challenges and problems posed by mobile and browser for creating social games.

Eutechnyx's Perella says that the lack of standardised cross-browser 3D acceleration support is hampering more ambitious games, meaning titles such as its own *Auto Club Revolution* are still using a connected yet standalone game application, rather than something fully integrated into the game and with other users.

He highlights potential upcoming solutions to the problem emerging such as Unity and NativeClient, but questions whether they are ready for the intensive support needed to run and create a socially-focused game.

"Unity is a powerful solution for a user-base willing to install the plug-in, but the jury is still out as to how well it scales for a larger game," he explains. "Google Native Client is a promising solution, but is still held back by limited browser adoption and lack of UDP support."

Perhaps one of the biggest challenges facing developers is getting their game noticed. Whilst social games inherently have the advantage of word-of-mouth, particularly if the apps they are playing are linked to their Facebook accounts, it is difficult to get noticed on the various app stores such as Apple's and Android's.

Social and casual gaming giant Zynga is well versed in using its large consumer-based to its advantage, using in-game advertisements – a tactic other developers could be well advised to use – and moving users from one game to another, based on analytics and usage patterns to discover games that the customer would like be interested in.

> ***"This is a fast-follow market, and as much as I hate to say it, there are companies out there willing to burn and pillage your idea."***
>
> Jason Mauldin, PapayaMobile

Barlow states that many studios have been, and are beginning to, push into the social space, with the companies at the top having large amounts of control over the bulk of the player base.

For smaller developers then, who cannot afford to spend $210million on OMGPOP to acquire a new audience, there are options such as Gree, Mobage or PapayaMobile, which can promote titles within their own private networks to relevant users.

PapayaMobile's director of marketing Justin Mauldin says that for most developers, this has become the difference between success and failure, and unless they have a sizeable budget when going it alone, makes it impossible for them to get discovered. He says that so important is getting noticed, that distribution can be just as important than the game itself.

"Developers have to think more about distribution than gameplay in my opinion. So what if you have a great game?" he asserts. "This is a fast-follow market, and as much as I hate to say it, there are companies out there willing to burn and pillage your idea. This makes the launch of the game even more important and why tapping into Papaya is even more essential."

YoYo Games' Dailly further states that whilst attracting players can be a big battle, which can prove costly, social games developers need to give their users a reason to stay once they have acquired them, which can be done through expanding the number of platforms the title is available on.

"The challenge facing social games dev is attracting players and keeping them," says Dailly. "The best way to do this is by giving them access when they want to play, and that means across many different formats, including Smart TVs and consoles.

START-UP TIPS

With many start-ups such as We R Interactive entering the social gaming space with titles like football sim *I Am PlayR*, knowing what tools to harness and finding the most cost-effective solutions can be crucial to their success.

The UK studio's CTO Alex Wittaker offers a plethora of tips to start-ups looking to compete with the enormous number of social and mobile games crowding the space, and make the most out of the tools and tech available.

"It might feel like putting the cart before the horse, but deciding on how you are going to make your money will strongly influence your choice of solutions," he states. "Say you want to go for free-to-play with microtransactions then you will either need to select a platform that supports this model – Kongregate, Facebook, Chrome, etcetera – or you are going to have to provide some of that infrastructure yourself.

"You are always going to have to serve your web app from somewhere so in many ways you are missing a trick if you do not offer services over and above the minimum. Facebook pushes some of the invitation management responsibilities onto your server. You need to accept that some server side development will be needed. So Ruby, Python, PHP, JavaScript; pick one and expect to be surprised at how large your code base will grow. Good coding practice will pay dividends here."

He goes on to explain that when selecting a scalable server, services such as Apache are a natural choice and scale well with a traffic manager, whilst Node.js is advantageous to small teams that want to concentrate expertise, although it is not widely proven at scale.

"If you are consuming cycles on a server then you are presumably going to want to record state and that means some means of data storage," he explains. "If you are going for high volume – microtransactions – then again consider what happens at scale. MySQL is a natural fit and comes as part of the LAMP architecture, but your data sets can rapidly outstrip the single terabyte range, so be sure that you are comfortable managing tables that spread across clusters of machines. Cassandra and other schema-less variants are in the ascendancy and are again free to use, but keep in mind that this is new technology still evolving. One attraction is that there are several commercial players in this space now, such as DataStax and Acunu, giving you an escape plan if managing your data corpus becomes a time sink."

"Making these games work as seamlessly as possible is a challenge but is necessary for success. A full social game is no longer just about writing a little Facebook game, sitting back and waiting for the cash to roll in. More users are turning to their mobile devices to play, so social games have to adapt."

PUSHING BOUNDARIES

With this ability to scale to multiple platforms and serve millions of users, whilst also keeping them engaged in the long-term, social gaming could eventually replace many traditional triple-A titles, or at the very least have similar features integrated into a blockbuster title.

Dailly criticises the current state of games at the top-end of the scale for a lack of creativity, especially given the lack of risk developers are afforded with budgets upward of $50 million, and believes social gaming is becoming a much more attractive proposition for developers as they are able to immerse and engage their users in their titles for the long-term.

"Social game budgets will increase, but they will be far more realistic than current triple-A projects," he says. "But unlike triple-A titles, social games have the advantage of releasing and updating once they've shown momentum. Developers don't have to produce a massive game only to find out no one wants to play it. This makes social games far more cost effective for publishers so they are likely to increase in number."

A CONNECTED FUTURE

It appears then that the social gaming sector will continue its astronomic rise, offering ever-more ambitious connected experiences more akin to that of triple-A titles than the typical 2D variants often seen in the browser and mobile games currently.

Ngmoco's DuBern says that the outlook for the genre looks rosey, and will continue to improve as the tech behind it becomes ever-more powerful.

"The future is incredibly positive for social gaming, particularly mobile. Early signs point to the rest of the world following the success seen in Japan, which we are at the forefront of," he says. "The mobile tech will continue to improve, and this will provide more and more opportunities for talented games developers."

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Many of the 2D Mario games are something of a case study of quality 2D platform game implementation

Jump to it!

Got an idea for a 2D platforming game? Then you'd do well to lend an ear to **Rodrigo Braz Monteiro**. When he's not undertaking his day job at Bossa Studios, the developer turns his eye to analysing game design. Here he delivers the first of a two-part guide to implementing 2D platforming games

HAVING PREVIOUSLY been disappointed by the information available on the topic of implementing 2D platform games, this is my attempt at categorising different ways to address the issue.

Here I list the strengths and weaknesses of various approaches, and discuss some implementation details, in an attempt to help those making a game that fits within the genre.

First, a disclaimer; some of the information presented here comes from reverse engineering the behaviour of the game; not from its code or programmers. It's possible that they are not actually implemented in this way, and merely behave in an equivalent way. Also note that tile sizes are for the game logic, graphical tiles might be of a different size.

I can think of four major ways in which a platform game can be implemented. From the simplest to the most complicated, and I will detail them over this two-part article.

IMPLEMENTATION TYPE ONE: TILE-BASED (PURE)

In this case, character movement is limited to tiles, so you can never stand halfway between two tiles.

Animations may be used to create the illusion of smooth movement, but as far as the game logic is concerned, the player is always right on top of a specific tile. This is the easiest way to implement a platform game, but it imposes heavy restrictions on the control of character, making it unsuitable for traditional action-based platformers. It is, however, popular with puzzle and cinematic versions.

Examples of tile-based platformers include *Prince of Persia, Toki Tori, Lode Runner* and *Flashback*.

HOW IT WORKS

The map is a grid of tiles, each one storing information such as whether it's an obstacle or not, what image to use, what kind of footstep sound to use, and so on.

The player and other characters are represented by a set of one or more tiles that move together. In *Lode Runner*, for example, the player is a single tile. In *Toki Tori*, the player is 2x2 tiles.

In *Flashback*, which is unusual due to the smaller size of its tiles, the player is two tiles wide and five tiles tall (*see image above, right*) when standing, but only three tiles tall when crouching.

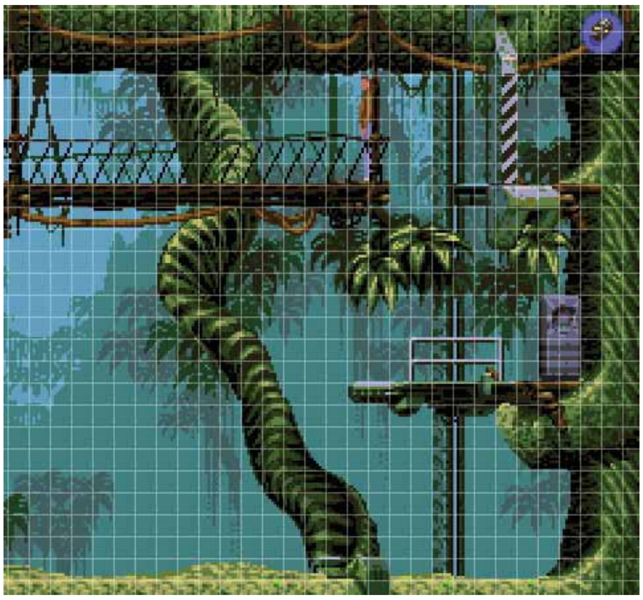
In this kind of game, the player will rarely – if ever – be moving diagonally, but, if he is, the movement can be decomposed in two separate steps. Likewise, he will likely only move one tile at once, but multi-tile movement can be done as multiple steps of one tile, if needed (in *Flashback*, you always move two tiles at once). The algorithm is then as follows:

1 - Create a copy of the character where he'd like to move to (e.g. If moving one tile to the right, make a copy where every tile of the character is shifted one tile to the right).
2 - Check that copy for intersection with the background and other characters.
3 - If an intersection is found, the character's movement is blocked. React accordingly.
4 - Otherwise, the path is clear. Move the character there, optionally playing an animation so the transition looks smooth.

This kind of movement is very ill-suited for traditional arc-shaped jumps – so games in this genre often have no jump at all (*Toki Tori, Lode Runner*), or only allow vertical or horizontal jumps (*Prince of Persia, Flashback*), which are nothing but special cases of linear movement.

Advantages of the pure tile-based system include simplicity and precision. Since the games are more deterministic, glitches are much less likely, and the gameplay experience is more controlled, with less of a need to tweak values depending on circumstances. Implementing certain mechanics – such as grabbing ledges – becomes a breeze, compared to more complex movement styles – all you have to do is check whether the player tiles and the background tiles are aligned in the one specific way that allows for a given action.

In principle, this system doesn't allow steps of less than one tile, but that can be mitigated in a few different ways. For example, the tiles can be a bit smaller than the player (say, a player is 2x6 tiles), or you can allow a visual-only movement to take place inside a given tile, without affecting the logic (which is the solution that I believe that *Lode Runner: The Legend Returns* takes).



Flashback, shown with tile boundaries

> **“If you're unsure which type of platformer you want to implement, and you want to do an action game, I suggest going smooth tile-based. It's very flexible, relatively easy to implement, and gives you the most control. It's no wonder that the majority of the best action platformers of all time are based on this type.”**
>
> Rodrigo Braz Monteiro, Bossa Studios

IMPLEMENTATION TYPE TWO: TILE-BASED (SMOOTH)

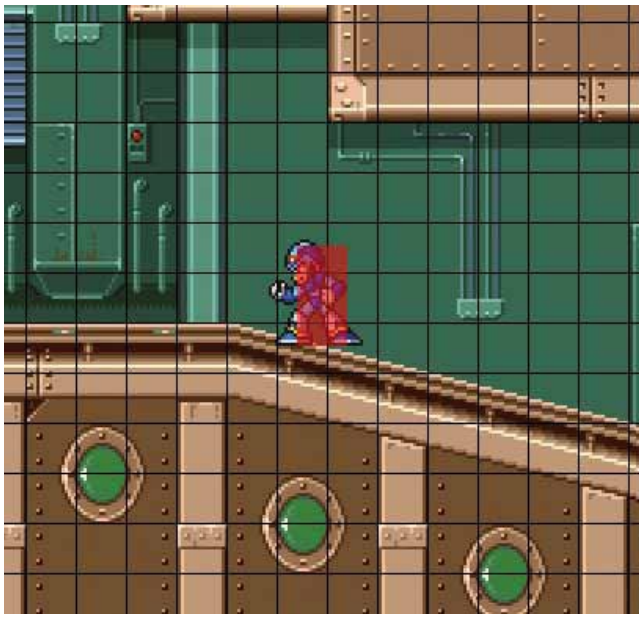
Here collision is still determined by a tilemap, but characters can move freely around the world (typically with 1px resolution aligned to integers. See next month for more). This is the most common form of implementing platformers in 8-bit and 16-bit consoles, and remains popular today, as it is still easy to implement and makes level editing simpler than more sophisticated techniques. It also allows for slopes and smooth jump arcs.

If you're unsure which type of platformer you want to implement, and you want to do an action game, I suggest going for this one. It's very flexible, relatively easy to implement, and gives you the most control of all four types. It's no wonder that the majority of the best action platformers of all time are based on this type.

Examples include *Super Mario World, Sonic the Hedgehog, Mega Man, Super Metroid, Contra, Metal Slug*, and practically every platformer of the 16-bit era.

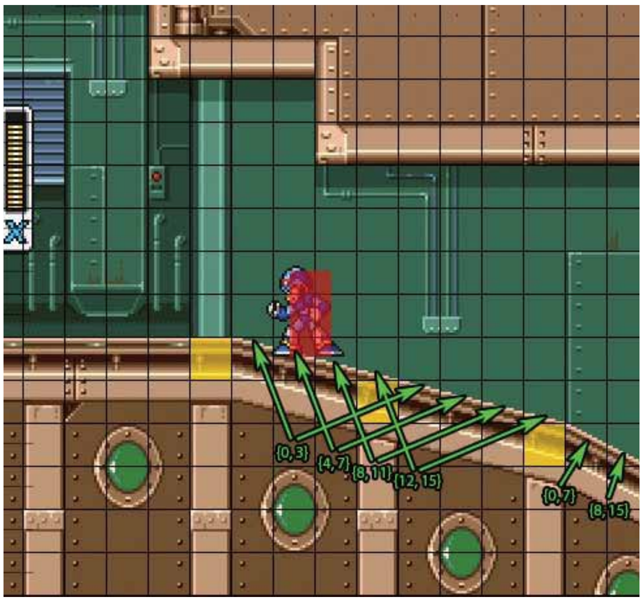
HOW IT WORKS

Map information is stored in the same way as with the pure tile technique; the difference is merely in how the characters interact with the background. The character's collision hitbox is now an Axis-Aligned Bounding Box (An AABB; a rectangle that cannot be rotated), and is typically still an integer multiple of tile size. Common sizes include one tile wide and one (small Mario), two (big Mario, crouched Samus) or three (standing Samus) tiles tall. In many cases, the character sprite is larger than the logical hitbox, to make for a more pleasant visual experience and fairer gameplay (it's better for the player to avoid getting hit when he should have than for him to get hit when he should not have). In the image right, you

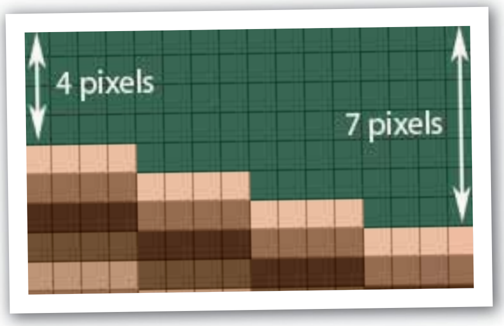


Mega Man X, shown with tile boundaries and a 'smaller-than-character' player hitbox, which together allows for a more visually pleasing and rewarding experience

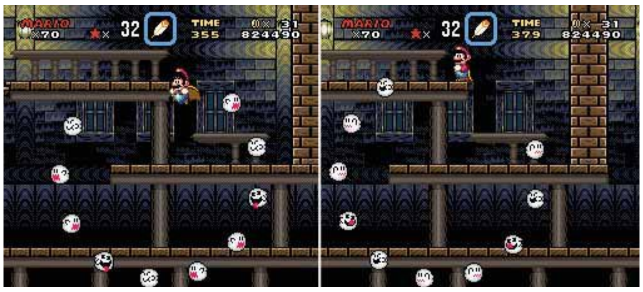
▶



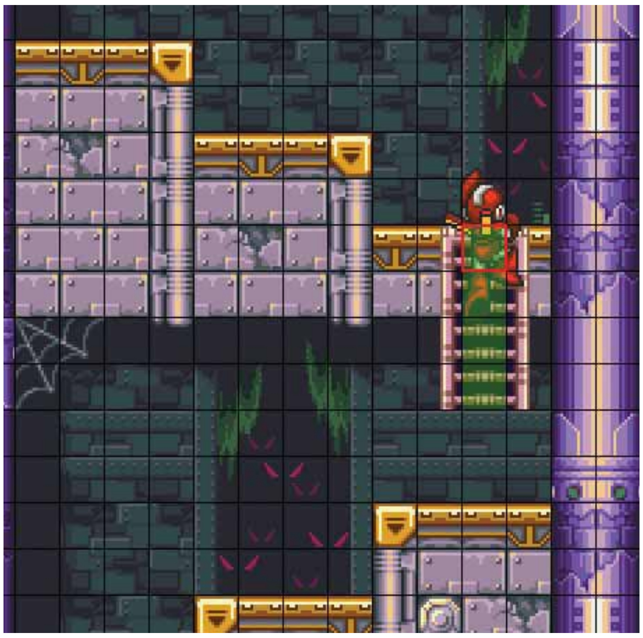
Mega Man X, with slope tile annotations



A detailed view of the {4, 7} tile from the Mega Man X screen shot above



Super Mario World, showing Mario falling through (left) and standing on (right) the same one-way platform



Mega Man 7, with tile boundaries, highlighted ladder tiles, and player ladder hitbox

can see that the sprite for X is square-ish (in fact, it is two tiles wide), but his hitbox is rectangular (one tile wide).

Assuming that there are no slopes and one-way platforms, the algorithm is reasonably straightforward:

1 - Decompose movement into X and Y axes, one step at a time. If you're planning on implementing slopes afterwards, step X first, then Y. Otherwise, the order shouldn't matter much. Then, for each axis:

2 - Get the coordinate of the forward-facing edge, e.g: If walking left, the x coordinate of left of bounding box. If walking right, x coordinate of right side. If up, y coordinate of top, etcetera.

3 - Figure which lines of tiles the bounding box intersects with – this will give you a minimum and maximum tile value on the opposite axis. For example, if we're walking left, perhaps the player intersects with horizontal rows 32, 33 and 34 (that is, tiles with y = 32 * TS, y = 33 * TS, and y = 34 * TS, where TS = tile size).

4 - Scan along those lines of tiles and towards the direction of movement until you find the closest static obstacle. Then loop through every moving obstacle, and determine which is the closest obstacle that is actually on your path.

5 - The total movement of the player along that direction is then the minimum between the distance to closest obstacle, and the amount that you wanted to move in the first place.

6 - Move player to the new position. With this new position, step the other coordinate, if still not done.

SLOPES

Slopes (the tiles highlighted by green arrows on the *Mega Man X* image to the left) can be very tricky, because they are obstacles, and yet still allow the character to move into their tile. They also cause movement along the X axis to adjust position on the Y axis. One way to deal with them is to have the tile store the 'floor y' of either side.

Assuming a coordinate system where (0, 0) is at top-left, then the tile just left of X (first slope tile) is {0, 3} (left, right), then the one he stands on is {4, 7}, then {8, 11}, then {12, 15}. After that, the tiles repeat, with another {0, 3}, etcetera, and then we have a steeper slope, composed of two tiles: {0, 7} and {8, 15}.

The system that I'm going to describe allows arbitrary slopes, though for visual reasons, those two slopes are the most common, and result in a total of 12 tiles (the six described previously, and their mirrorings). The collision algorithm changes as follows for horizontal movement:

- Make sure that you step X position before Y position.
- During collision detection, the slope only counts as a collision if its closest edge is the taller (smaller y coordinate) one. This will prevent characters from 'popping' through the slope from the opposite side.
- You might want to forbid slopes to stop 'halfway through' (e.g. on a {4, 7} tile). This restriction is adopted by *Mega Man X* and many other games. If you don't, you have to deal with the more complicated case of the player attempting to climb from the lower side of the slope tile. One way to deal with this is to pre-process the level, and flag all such offending tiles. Then, on collision detection, also count it as a collision from the lower side if the player's lowest y coordinate is greater (that is, below) the tile's offset edge (tile coord * tile size + floor y).
- A full obstacle tile adjacent to the slope the character is currently on should not be considered for collision if it connects to the slope, that is, if the character (that is, his bottom-centre pixel) is on a {0, *} slope, ignore left tile, and, if on a {*, 0} slope, ignore the right tile. You may have to do this for more tiles if your character is wider than two tiles – and you might simply skip checking on the entire row if the player is moving towards the upper side of the slope. The reason for this is to prevent the character from getting stuck at those tiles (highlighted yellow top-left) while still climbing the slope, as his foot will still be below the 'surface level' by the time he comes into contact with the otherwise solid tile.

And for vertical movement:

- If you're letting gravity do its job for downhill movement, make sure that the minimum gravity displacement is compatible with slope and horizontal velocity. For example, on a 4:1 slope (as {4, 7} above), the gravity displacement must be at least 1/4 of the horizontal velocity, rounded up. On a 2:1 slope (such as {0, 7}), at least 1/2. If you don't ensure this, the player will move horizontally right off the ramp for a while, until gravity catches up and drags him down, making him bounce on the ramp, instead of smoothly descending it.
- An alternative to using gravity is to compute how many pixels above the floor the player was before movement, and how many it is afterwards (using the formula below), and adjust his position so they're the same.

When moving down, instead of considering a slope tile's top edge as its collision boundary, instead, compute its floor coordinate at the current vertical line, and use that. To do that, find the [0, 1] value which represents the player's x position on tile (0 = left, 1 = right) and use it to linearly interpolate the floor Y values. The code will look something like:

```
float t = float(centerX - tileX) / tileSize;

float floorY = (1-t) * leftFloorY + t *
rightFloorY
```

- When moving down, if multiple tiles on the same Y coordinate are obstacle candidates, and the one on the X coordinate of the player's centre is a slope tile, use that one, and ignore the rest – even though the others are technically closer. This ensures proper behaviour around the edges of slopes, with the character actually 'sinking' on a completely solid tile because of the adjacent slope.

ONE-WAY PLATFORMS

One-way platforms are platforms that you can step on, but can also jump through from below. In other words, they count as an obstacle if you're already on top of them, but are otherwise traversable. That sentence is the key to understanding their behaviour. The algorithm changes as follows:

- On the x axis, the tile is never an obstacle.
- On the y axis, the tile is only an obstacle. if, prior to the movement, the player was entirely above it (that is, the bottom-most coordinate of player was at least one pixel above top-most coordinate of the one-way platform). To check for this, you will probably want to store the original player position before doing any stepping.
- It might be tempting to have it act as an obstacle if the player's Y speed is positive (that is, if the player is falling), but this behaviour is wrong; it's possible for the player to jump so he overlaps the platform, but then falls down again without having his feet reach the platform. In that case, he should still fall through.
- Some games allow the player to 'jump down' from such platforms. There are a few ways to do this, but they are all relatively simple. You could, for example, disable one-way platforms for a single frame and ensure that y speed is at least one (so he'll be clear of the initial collision condition on the next frame), or you could check if he's standing exclusively on one-way platforms, and, if so, manually move him one pixel to the bottom.

LADDERS

Ladders might seem complicated to implement, but they are simply an alternate state when you're in a ladder; you ignore most of the standard collision system, and replace it with a new set of rules. Ladders are typically one tile wide. You can usually enter the ladder state in two ways:

- Have your character hitbox overlap with the ladder, either on the ground or in the air, and hit up (some games also allow you to hit down).
- Have your character stand on top of a 'ladder top' tile (which is often a one-way platform tile as well, so you can walk on top of it), and hit down.

This has the effect of immediately snapping the player's x coordinate to align with the ladder tiles, and, if going down from the top of the ladder, move the y coordinate so the player is now inside the actual ladder. At this point, some games will use a different hitbox for the purposes of determining whether the player is still on the ladder. *Mega Man*, for example, seems to use a single tile (equivalent to the top tile of the original character, highlighted in red in the image bottom-left). There are different ways to leave the ladder:

- Reaching the top of the ladder. This will usually prompt an animation and move the player several pixels up in Y, so he's now standing on top of the ladder.
- Reaching the bottom of a hanging ladder. This will cause the player to simply fall, although some games won't let the player leave the ladder in this way.
- Moving left or right. If there is no obstacle on that side; the player may be allowed to leave that way.
- Jumping. Some games allow you to release the ladder by doing this.

While on the ladder, the character's movement changes so, typically, all he can do is move up and down, and maybe attack.

STAIRS

Stairs are a variation of ladders, seen in few games, but notably in the *Castlevania* series. The actual implementation is very similar to that of ladders, with a few exceptions:

- The player moves tile by tile or half-tile by half-tile (as in *Dracula X*)
- Each 'step' causes the player to be shifted simultaneously on X and Y coordinates, by a pre-set amount.
- Initial overlapping detection when going up might look on the tile ahead instead of just the current overlap one.

Other games also have stairs that behave like slopes. In that case, they are simply a visual feature.

MOVING PLATFORMS

Moving platforms can seem a little tricky, but are actually fairly simple. Unlike normal platforms, they cannot be represented by fixed tiles (for obvious reasons), and instead should be represented by an AABB; that is, a rectangle that cannot be rotated. It is a normal obstacle for all collision purposes, and if you stop here, you'll have very slippery moving platforms (that is, they work as intended, except that the character does not move along it on his own).

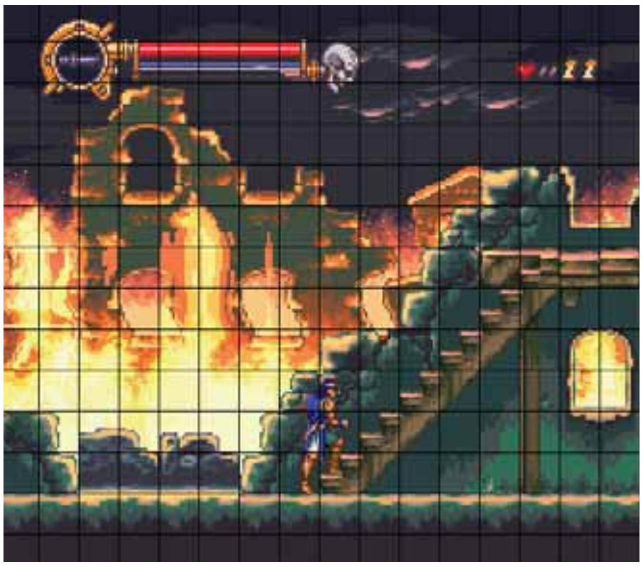
There are a few different ways to implement that. One algorithm is as follows:

- Before anything on the scene is stepped, determine whether the character is standing on a moving platform. This can be done by checking, for example, whether his centre-bottom pixel is just one pixel above the surface of the platform. If it is, store a handle to the platform and its current position inside the character.
- Step all moving platforms. Make sure that this happens before you step characters.
- For every character that's standing on a moving platform, figure out the delta-position of the platform, that is, how much it has moved along each axis. Now, shift the character by the same amount.
- Step the characters as usual.

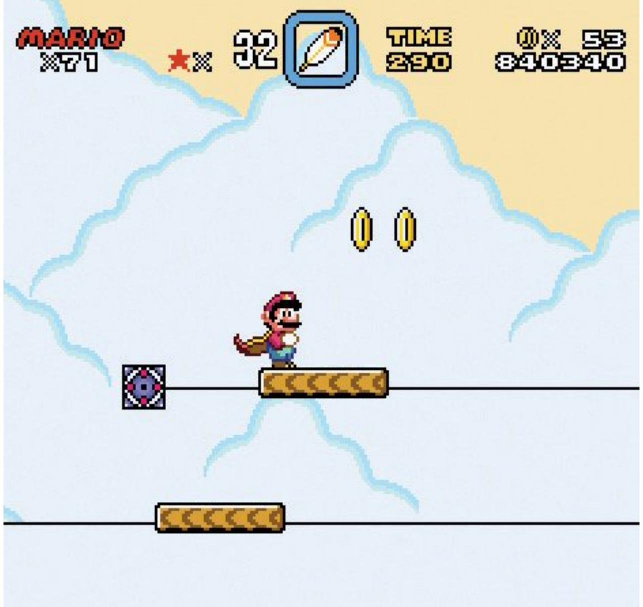
OTHER FEATURES

Other games have more complicated and exclusive features. The *Sonic the Hedgehog* series is notable for this. Those are beyond the scope of this article (and my knowledge, for that matter), but might be subject of a future article.

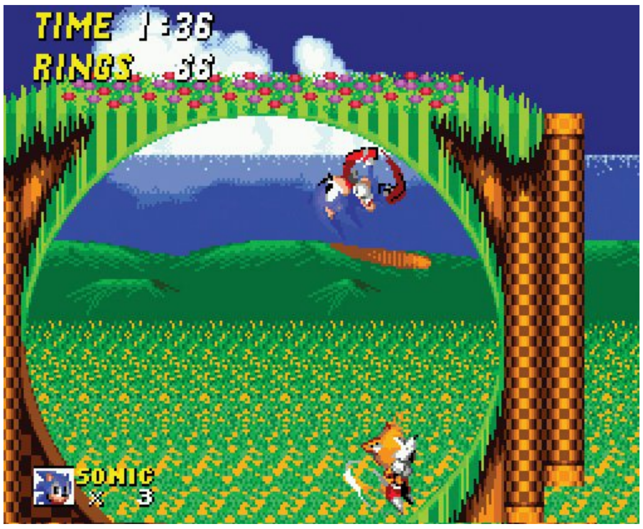
Check back next month for part two of this special feature, where you'll learn more on the nuance of platforming game design, and gain an understanding of two more implementation approaches



Castlevania: Dracula X and its stairs, with tile boundaries



Moving platforms require a special effort to make them workable



Sonic the Hedgehog demonstrating its complicated platform features, which require skilled implementation

Rodrigo Braz Monteiro designs and programs games, and has done so since 1997. He currently resides in London, UK, working for Bossa Studios as a game developer. He is also a member of the indie group Studio MiniBoss. More of his writing is available at his personal website **higherorderfun.com**.

The lighting Conundrum

Chris Doran is the founder and COO of lighting outfit Geomerics, which is providing tech for the Kim Swift-made Quantum Conudrum. **Will Freeman** asks how the industry looks to a company shining a spotlight on games

Chris Doran (above) and his colleagues are spearheading developing lighting tech for the next generation of platforms

First off, how are things at Geomerics?
Great, thanks. The reception for our new tech at GDC was excellent, as was the response to seeing real-time global illumination on mobile devices. There was a real sense that lighting is becoming increasingly important, and you could see that in the calibre of developer that was coming to see us.

And are there any new games you are allowed to talk about?
There are over 20 games currently in production using Enlighten, but we can only talk about a handful. We were delighted to see *Quantum Conundrum* receive a Best in Show nomination at E3 and are really looking forward to seeing the final game. *Medal of Honor: Warfighter* is looking great and really pushing the lighting and the *Close Quarters* pack for *Battlefield 3* shows off how Enlighten works in destructible environments nicely.

What has been the focus at Geomerics as you look towards a generation transition?
Ease of authoring is the overriding theme. We have our core technology in place, as well as differentiating features for more powerful hardware. The challenge is to wrap this up in as simple a way as possible and we have been making major improvements in this area.

> **“As we look to more powerful hardware developers expect some tasks that used to require artist intervention to be automated.”**
>
> Chris Doran, Geomerics

On current generation memory and compute resources are highly contested. Most developers will accept some authoring workload if it helps minimise the load at the point of runtime.

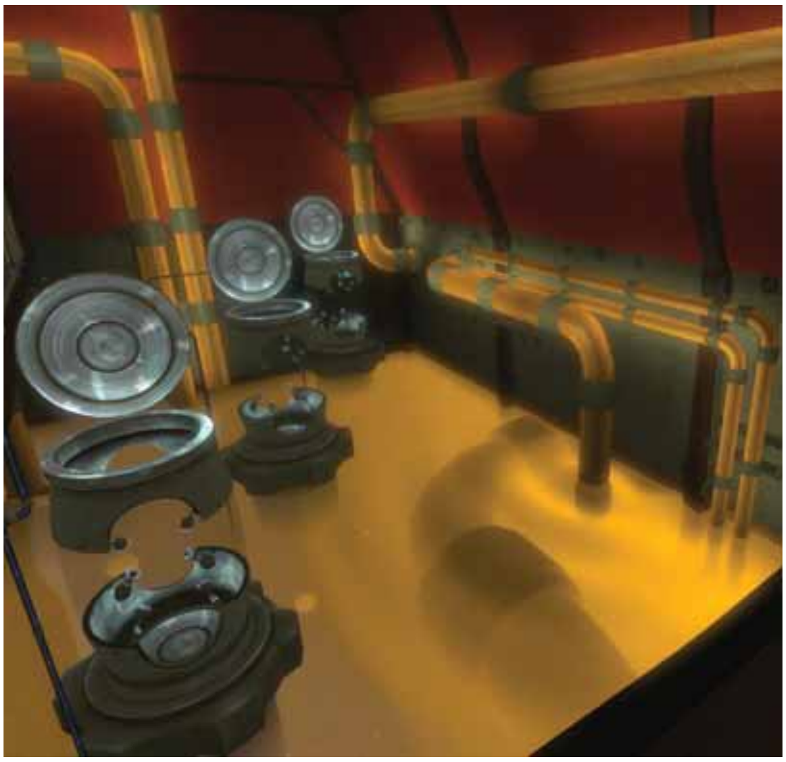
Enlighten is no different in this respect. We provide a range of optimisation strategies, and developers choose how much up-front work they want to do.

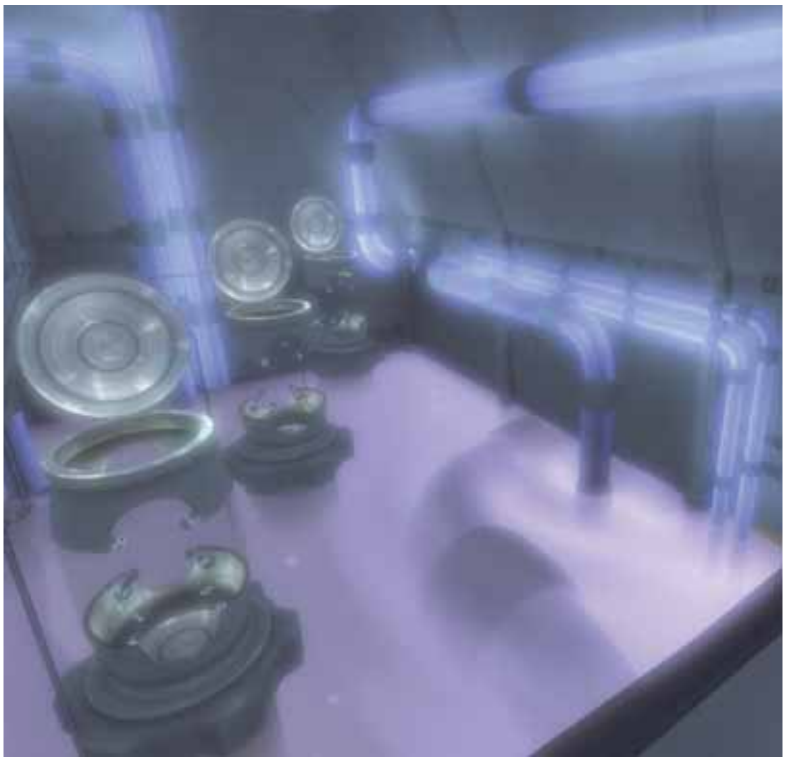
As we look to more powerful hardware developers expect that some of the tasks that used to require artist intervention can be automated. This shift is essential to freeing up teams to focus on entirely new stuff.

The transition for Enlighten is no different. We are replacing tasks that used to require authoring and mark-up with fully automated options. These improvements ensure the Enlighten workflow is even easier than before. The option to go in and make final optimisations by hand will always be there, but will become increasingly unnecessary.

When making the decision to automate workload our philosophy is that we cannot compromise the quality of the final image. We spend a lot of time researching real-time global illumination techniques, but we only ever implement those that we know give high-quality results matching those of an off-line renderer.

What other tech have you been working on at Geomerics?
One feature we are very pleased with is our integration in Autodesk’s tools. We have





Kim Swift's Quantum Conundrum (all main images) demonstrates how lighting can become gameplay mechanics

added a new Maya viewport to the SDK, so now artists working inside Maya can see the effect of their assets lit with Enlighten without having to import the asset into the full game engine.

They can tune lighting configurations fully in real time, move around objects and see all of the changes instantly. This can be a major saving for an artist – they can do far more prototyping of ideas within their favourite tools and don't need to export their assets until they are happy with the look.

You are a member of Epic's Integrated Partner Program (IPP). How has that worked out for you?
The IPP has been a core reason for Epic's strength on this console cycle and has helped make UE3 the all-conquering engine it is. Epic makes everything easy for the IPP members and a healthy percentage of our sales have been to developers using UE3.

I'm sure this will continue to be the case for UE4. Epic will continue to pick the areas that they believe are most important to the core engine, and then open things out to other middleware companies to further enhance the offering. We are confident that our unique expertise will allow us to provide differentiating tech for the engine.

Epic have started UE4 demos. What are your thoughts on what you have seen?
A number of the big publishers and engine companies are starting to show off their next-gen tech, and they are all talking up the importance of lighting. It's great to see them following our lead. We've been preaching the importance of lighting throughout this generation and I think the games coming out now justify our claims.

What Epic is promoting with UE4 is a new technique aimed solely at high-end PCs. What they were showing is what we can do on today's consoles, mobiles, handhelds and Wii U. The real test of all these technologies is getting it running in a game with limited resource and memory on a console. We are totally confident in our ability to deliver this. The great thing about demos like UE4 is that everyone wants fully dynamic lighting, and they want it now.

Some of the lighting effects Epic were showing at E3 have, some would say, parallels with some demos for Enlighten.
I'm glad you remember. In fact, this summer's Develop Conference marks the sixth anniversary of us first showing global illumination running in real-time.

Our early demos showed examples of dynamically updating the colour of surfaces and having that bounce around the world in real-time. That technology is central to the look of *Quantum Conundrum*. That game relies on our ability to generate real-time global illumination in-game on today's hardware.

> **"We are reaching saturation point with 2D games with novel input devices, and people are going to start craving for more."**
>
> Chris Doran, Geomerics

Do you see much possibility of a long tail for this console cycle?
Take-two have talked publicly about this, and I'm sure other publishers are thinking along the same lines. The current PS3/360 installed base is vast, and if a decent percentage of Wii owners upgrade to Wii U they will also become a target for high-end 'current gen' games. Add to that the increasing power of tablets, mobiles, PCs, laptops and Vita, and you get to a massive installed based all with levels of performance within the same order of magnitude. The attraction of making games that could service an installed base pushing half a billion, as opposed to jumping exclusively onto new hardware, must be very attractive to publishers.

Of course, for us this is perfect, as this is the baseline performance level set for Enlighten. We service all of these platforms, as well as offering differentiating tech for the high-end.

When we last spoke you were about to reveal Enlighten on mobile platforms at GDC. How was that received?
The reaction was huge – I don't think anyone was expecting that level of real-time performance on tablets. We are now seeing current generation console performance on mobile devices.

There are still issues with the way the market for mobile games is currently structured. The current model is to take a concept, release it out as quickly as possible, see how the market responds, and keep tweaking until you have a decent user base, then find ways to monetise the users.

This 'get it out quickly' concept was how Stock Aitken Waterman used to work in the 80s, and it's not a recipe for quality.

We are reaching saturation point with 2D games with novel input devices, and people are going to start craving for a more substantial offering. *Uncharted* on Vita is a real eye-opener in terms of what can be achieved on handhelds. Already developers are starting to use Enlighten for mobile games, and we are going to see a big leap in quality in the next two years.

Finally, congratulations on your nomination for a Develop Award. Are you confident for the Awards?
We were delighted with the nomination in the Technical Innovation category. But there's lots of great stuff in that category and it's an area in which the UK is maintaining its strength.
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KEY RELEASE

Will Freeman takes a look at the new Faceware Professional Product Line

WHAT IS IT? A facial animation tool suite built to capture, analyse and create realistic facial performances with great speed
COMPANY: Faceware Technologies
www.facewaretech.com

THE NEWLY RELEASED Faceware Professional Product Line is, in essence, a suite of tools and hardware devoted to the capture, analysis and creation of high-end facial animation.

Crafted for use in games, films, television and even stage performance, the tech is built on the experiences Faceware and Image Metrics learned as a service provider, and promises to allow for quality results at a rate three-to-five times faster than equivalent keyframing techniques.

But while the Faceware Professional Product Line solutions – commonly abbreviated to FPPL – have Faceware's service provision to thank for much of their make-up, the team behind the tools insist that it is the suite's separation from previous service technologies that is its strength.

"The old Faceware pipeline contained a service element, meaning studios were required to send their content off-site to us," explains Ron Ryder, COO and CFO of the Image Metrics Group, which includes Faceware Technologies. "The new pipeline is entirely turn-key, and occurs on-site with the developer using our tools. No content leaves the studio and the entire workflow occurs using a developer's own resources."

FREE AND EASY

And, says Ryder, the modular nature of the FPPL means developers have even more freedom, whether making their own hardware choices or hand picking their preferred technique.

"On the hardware side, studios have the flexibility to capture video with our Head-Mounted Cameras, or with other video capturing devices," he explains. "This gives studios a choice of how they want to capture the facial performances of their actors."

With regard to the software FPPL offers, two solutions give artists the option of analysing and retargeting performances; the Faceware Retargeter and the Analyzer. The Retargeter in particular has been crafted to allow developers the ability to work within an Autodesk animation package they are familiar with, meaning that retargeting occurs within a plug-in designed for the packages.

GO WITH THE FLOW

Faceware has also invested substantial effort in refining the suite's workflow and pipeline, pulling on its experience contributing to numerous titles over a ten-year period.

"Clients can capture with our Head-Mounted Camera in the morning, process the performances with Faceware Analyser, and by the end of the day, finish the job by applying the performance to characters in our Faceware Retargeter," asserts Ryder. "It's a simple, streamlined workflow that is extremely intuitive and user friendly, and it saves huge amounts of time when compared to hand-keying those same performances."

Faceware's new line is also a reflection of two trends in the industry the company is sure are key to high-end games development. The first is the increased need for believable characters, as graphical quality improvements demand that nothing breaks the illusion of the game world. The other is the new need for full performance capture as the migration towards complete virtual production continues.

> ***"The Faceware pipeline takes the strengths of keyframing and bottles it up into a clean, straightforward workflow."***
>
> Ron Ryder, Faceware

Vital to the FPPL's success, of course, is its ability to match the quality of work keyframing can achieve; something the tech's makers are confident their solution can do.

"The tech matches keyframing quality and is much faster," states Ryder. "The Faceware pipeline takes the strengths of keyframing and good animation reference from convincing performances, and bottles it up into a clean, straightforward workflow.

"We seek to free up actors to simply act on camera, and then allow the keen eye of a 3D animator to interpret how that performance should be applied to their character. Simply set key poses on their own rig and see the magic work. Keyframe animators are then enabled to work much faster than they ever could before."

Faceware Analyzer and Retargeter are free to evaluate, and can be downloaded directly from Faceware's website.

Both part of the FPPL package, each comes with a free IMPD Performance and Rig Library, to assist users with getting up to speed faster. The Faceware HMCS is available for rent or purchase.

WHAT'S INSIDE THE FPPL?

The Faceware Professional Product Line is built around three elements: the Head-Mounted Camera System, the Faceware Analyzer and the Faceware Retargeter.

The HMCS, consists of a helmet, bracing, mount and camera, and works in tandem with mo-cap suits to capture data-rich facial video complete with time code.

The Faceware Analyzer can be 'trained' to recognise an actor's traits, and uses computer vision algorithms to examine every pixel of facial data in the performance so as to create an IMPD file.

Finally, the Faceware Retargeter takes the IMPD file from Analyzer and transfers the data onto the 3D model.

Faceware's Head-Mounted Camera hardware (main image) helps spped up the facial animation process drastically, says COO and CFO Ron Ryder (above)

EPIC DIARIES

Mark Rein looks at Unreal Engine 3's influence over Lollipop Chainsaw's creation

Whether you love or loath Lollipop Chainsaw's choice of theme and aesthetic, it has succeeded in bringing the game lots of attention

IN THE VIDEO games business, there are few creators who more routinely conjure up completely original action adventure titles than Goichi 'Suda 51' Suda.

With *Lollipop Chainsaw*, the game maker and his team at Grasshopper Manufacture have introduced a new heroine to gaming lore. Juliet Starling is a high school cheerleader who has a secret life as a zombie killer. When the undead invade her school, it's time to replace her pompoms with a chainsaw and other weapons to take out the monsters.

"We wanted to create a fun and exhilarating zombie action game that brings the concept of 'pop, cute and violent' to gamers," said Suda 51.

Suda 51 is delivering an extremely different action-based interactive creature feature this time around, showcasing just how much breadth of scope is available to Unreal Engine 3 users. *Lollipop Chainsaw* comes on the heels of Grasshopper's UE3-powered *Shadows of the Damned*, published by EA. The two games couldn't be more different.

BLOOD BROTHERS

Although both games share plenty of blood and gore, *Lollipop Chainsaw* takes an over-the-top '80s approach to its third-person perspective action. Starlet wears her Knights cheerleader uniform with pride, but delivers deadly combos with accuracy when armed and dangerous.

"Some of the basic methods for taking out enemies are chainsaw attacks and cheerleading attacks," said Masahiro Yuki, co-producer on *Lollipop Chainsaw*. "How those attacks can be mixed to slash zombies is entirely up to the player's creativity. We implemented lots of combination attacks in the game so that users can take full advantage of the variety of moves, such as the chainsaw dash and chainsaw bluster, while strategising their game plan."

The tech behind this mayhem benefited from the developer's multiple UE3 titles.

When it came to choosing UE3 for its games, Tomas Rovina Roquero, technical art director at Grasshopper, said the company plans to maintain technologies and know-how that they have built upon over multiple projects: "The provided support system that Epic Games offers was enticing enough to choose Unreal Engine 3 for our development."

WELL SCRIPTED

Nobuhiro Obata, a programmer at Grasshopper Manufacture, said the Unreal Kismet visual scripting system is used by the team in many ways.

"We were able to create an open development environment where staff members from different divisions were able to easily participate in the game's creation," he said.

Unreal Cascade and post-processing functions allowed the team to create cartoonish and cute, yet violent effects and expressions for Juliet Starling.

"We were able to flexibly implement halftone and 'Sparkle Hunting' in the post-processing, which flawlessly depict the interpretation of the world of *Lollipop Chainsaw*," explained Obata. "Our game planners and artists were pleased that we met this requirement."

Roquero said the team took advantage of Epic's Unreal Developer Network (UDN) throughout the development process. In fact, by the end of the game's development they had exchanged more than 350 emails through the UDN site, including many questions regarding new functionality that Grasshopper created for this game.

The end result is a zombie game unlike anything out there, and yet another example of the creativity that comes from Suda 51 and Grasshopper Manufacture. With each new game from this inventive Japanese studio, the capabilities of the Unreal Engine continue to expand.

UPCOMING EPIC ATTENDED EVENTS:

Develop in Brighton Conference
Brighton, UK
July 10th -12th, 2012

GDC Europe
Cologne, Germany
August 13th - 15th, 2012

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August 15th - 19th, 2012

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To discuss licensing opportunities for the Unreal Engine, please email t: **licensing@epicgames.com.**

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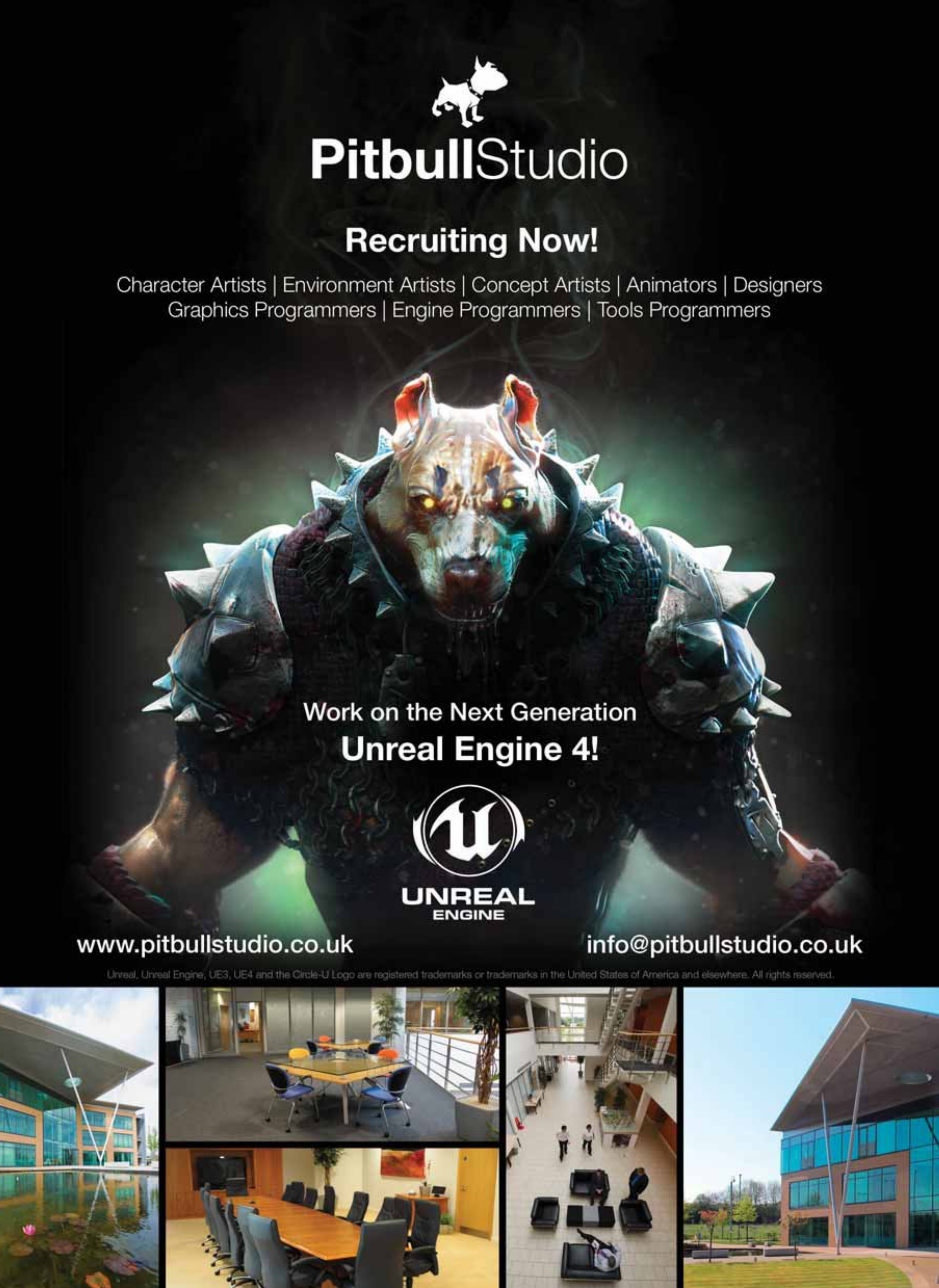
Canadian-born **Mark Rein** is co-founder and vice president of Epic Games, based in Cary, NC. Unreal Engine 3 has won eight Game Developer magazine Front Line Awards, including entry into the Hall of Fame. Unreal Engine 3 has also received four consecutive Develop Industry Excellence Awards. Epic is the developer of the bestselling Unreal, Gears of War and Infinity Blade series of games. Follow @MarkRein and @UnrealEngine on Twitter.



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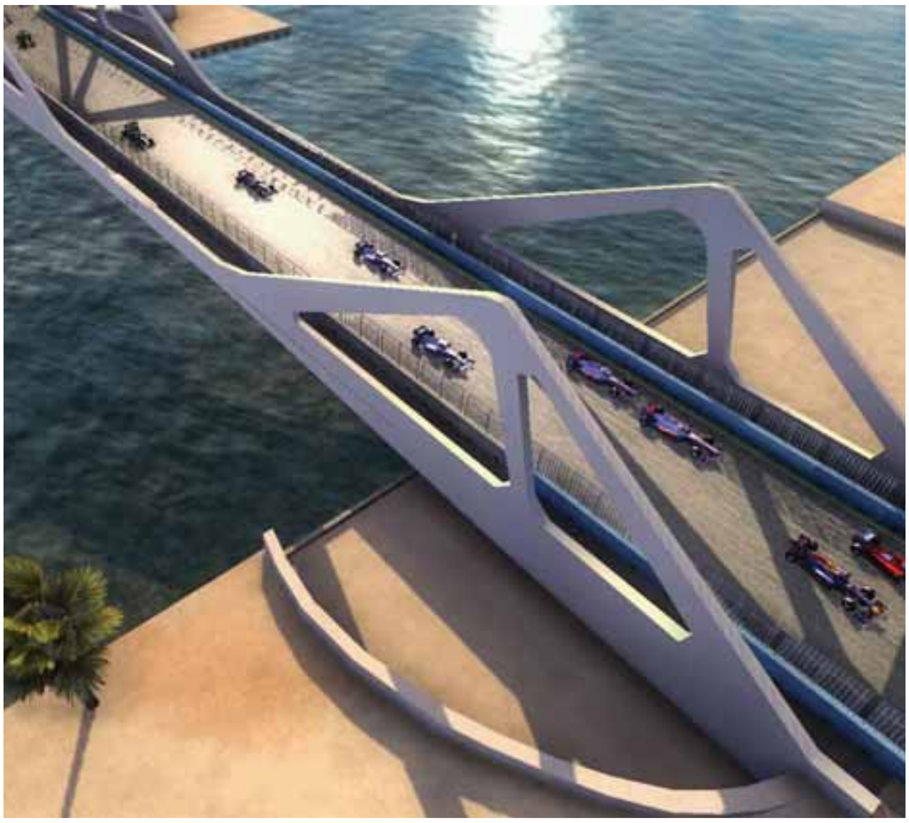
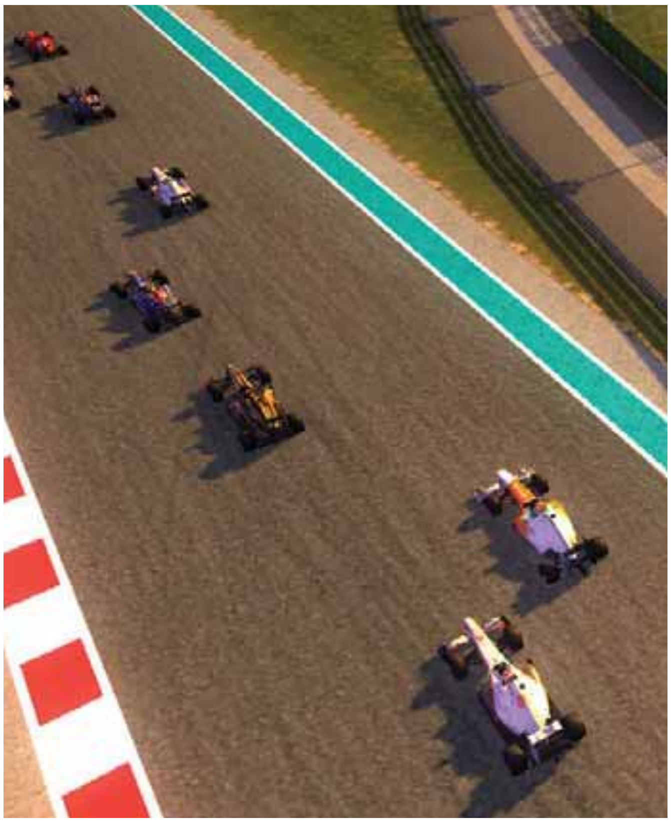
UNITY FOCUS

Codemasters enters the browser space under its new Racing label with Unity

F1 ONLINE: THE GAME
Developer: Codemasters Racing
What is it? A new browser-based racing game
www.codemasters.com





F1 Online: The Game in action (main images) and Codemasters Online associate producer Michael Rowland (above)

UK INSTITUTION and long-time console developer Codemasters Racing recently took the decision to try its hand at creating a racing game for the burgeoning browser space, in the form of *F1 Online: The Game*.

Although many of its developers already possess experience in the sector from *Dungeons and Dragons Online* and *Lord of the Rings Online*, the team felt it was time, under the new Racing label, to bring its expertise to the internet.

"We are building up our supported SKUs across tablet and mobile, so it makes sense to utilise the skills, tools and platforms available to us," explains Codemasters Online associate producer Michael Rowland.

"Browsers have always been an area we wanted to expand to outside of the traditional MMO Platforms we've previously worked on. There's so much more potential with the explosion of laptop, PC and tablet sales across the world, all of which are great gaming platforms, and it's a fantastic opportunity to share the expertise we have within Codemasters Racing Studios for this burgeoning market."

To build this new online and free-to-play top down racer based on the Formula One license, the studio adopted Unity's ubiquitous engine to take advantage of its suite of browser development tools and install-base for its browser plug-ins.

"We have been keeping close ties to Unity over the last few years whilst investigating and working with online titles that utilise the Unity engine," says Rowland.

"When conceptualising out our first browser game, it made total and complete sense to work with the Unity team and engine to realise our ideas. That really was when *F1 Online: The Game* was born. The toolset grew from that point and a lot of our feedback made it into a number of Unity updates."

Rowland says that as well as receiving support from the Unity team in creating the title and overcoming any development issues, he was perhaps most impressed by the Unity community, which was also on-hand through the forums to offer tricks and solutions to overcome the various development hurdles they ran into.

> ***"When conceptualising our first browser game, it made sense to work with the Unity team."***
>
> Michael Rowland, Codemasters

"Unity has been on-hand to support us throughout the course of the project, whether it be a full-blown technical support on code to needing an add-on from their store," he states.

"We've been pushing the most out of the engine, not only at a game level but also from a development standpoint. Unity has been there to help develop tools supporting development processes that not only our studio has required, but I'm also sure other studios will find useful too."

As well as receiving support from the engine vendor's community, Rowland says that Unity provided Codemasters with a platform to start working on the game, and allowing the studio to build up from a base template and grow the title over time. He adds that the developer was also able to import all of its art assets from *F1 2011* on console and build them into an engine that can run on a basic web browser.

"The result is a visually stunning game, very low hardware overhead and a quick turnaround in producing a game from concept to launch," he explains. "We've been able to update the physics systems within Unity, tuning them for the unique Formula One experience, and build additional core systems. The result is a host of design tools used for *F1 Online: The Game* but also for future projects within Codemasters Racing."

Rowland says that, despite the occasional niggles with the title's creation, the relatively quick development process compared to Codemasters' usual long and gruelling work for its console titles, the studio would happily use Unity again for its future projects.

He adds that the "full-blown" technical report it received throughout development, as well as the usefulness of the Asset Store in providing much-needed tools and add-ons at the click of a button, means that the racing games outfit has been able to push the engine to its limits to create an exciting and polished gaming experience for its users.

Currently in open beta, if its free-to-play title *F1 Online: The Game* proves successful, this once console-focused developer could begin expanding its offerings and famous franchises to the browser space on the back of Unity in the future.

HEARD ABOUT

John Broomhall talks to Radical Entertainment about the sound of Prototype 2

Prototype 2
Developer/Publisher: Radical Entertainment
Platforms: PC, PS3, Xbox 360
www.prototypegame.com

ROB BRIDGETT is a respected game audio practitioner. Widely known for a thoughtful approach to his craft, he has strived to take the 'best of the best' practice from film sound to inform his triple-A video games productions.

As well as facilitating some interesting movie/game liaisons – most notably collaborating with film sound design guru Randy Thom in his *Scarface* project – and writing on the subject in his book *From The Shadows Of Film Sound*, he is an active evangelist for the holy grail of audio post-production time in games and actively promotes the cause of good mixing via his website gameaudiomix.com. He's just emerged from the end of his second *Prototype* production. However, *Develop* first took Bridgett back to *Prototype 2's* commencement to ask about his initial approach to an important sequel.

"Approaching a sequel means the tone is usually already firmly established," explains Bridgett. "As co-audio directors on the project, Scott Morgan and I felt it was important not to stray from the successes of the first game but to build on the already established franchise strengths, whilst also looking for new and interesting developments for sound within the context of the new design.

"So we identified the continued need for believable, yet over-the-top detail and impact in the physics and collision sound systems – fundamental to player's experience of the destruction and chaos they create. And the emotionally-charged score was also critical in delivering a feeling of ultimate power fantasy again. But a central difference for *Prototype 2* was narrative design being given centre stage. Dynamic mixing systems, and dialogue handling pipelines that allowed voice and story to feature more prominently would be vital – not only in scripted cut-scenes and linear missions, but also during more emergent chaotic missions."

RADIO DAYS

Dialogue radio processing and handling was a big deal for the sound team working on *Prototype*, so how did they handle the process?

"VST batching was built-into our pipeline to handle the huge amounts of content, as well as ensure localised content was identically processed," he states. "By designing, storing, applying and processing effects chains inside our dialogue database tool, we were able to quickly and effectively manage over 85,000 dialogue wave files – some 17,000 files per language. Our investment in dialogue handling tools proved an enormous advantage."

The Radical sound staff also serve as champions of the need for time for the audio team to mix and tweak at the end of a project, so the concluding section of *Prototype 2's* audio design was a vital time.

"Post-production planning and thinking is built-into the DNA of our audio department," insists Bridgett. "All roads lead to the final mix, which is an established milestone production date we call 'sound beta'; this changes our approach to pre-mixing and quality control of content throughout the production.

Using a single voice director and producer was a cornerstone of the approach, allowing all voice production to be passed through a single studio, adhering to solid levelling and dynamic range, as well as enabling total consistency in direction for each character.

> ***"It was important not to stray from the successes of the first game, but to build on the already established franchise strength."***
>
> Rob Bridgett, Radical

DROPPING IN

"This meant that the edited assets dropped directly into the game engine and cut-scenes, and directly into the mix without any further mastering, limiting or attenuation."

Bridgett and his team also applied this 'horizontal' approach to music by having Scott create all the content in-house, with consistent templates and sessions.

"He could drop music into the game and iterate immediately," he reveals. "Consequently, much of the need for deep re-mixing and re-mastering was eliminated. Sound design elements were similarly given ownership horizontally – one person owning weapons and UI sounds across the whole game, while the other owned ambience, physics, collisions et al.

"Having the sound beta is one of the only ways we are able to spend time mixing our games at the end of production. This time is specifically set aside for allowing ourselves to be really picky about the final balance in a controlled, relaxed environment. The final mixes we do at Radical happen in our in-house, purpose built mix stage – usually over the final three weeks of the project.

"The process is broken down into three stages; getting overall output levels correct, playing through the entire game tweaking faders in real-time, or alternatively making adjustment notes to address specific sounds and voice files offline, and finally checking various mix configurations, mix-downs and supported output formats across the consoles."

The recording facility used for Prototype 2 (main image), where Rob Bridgett (above) strived to meet the quality of the film industry's audio

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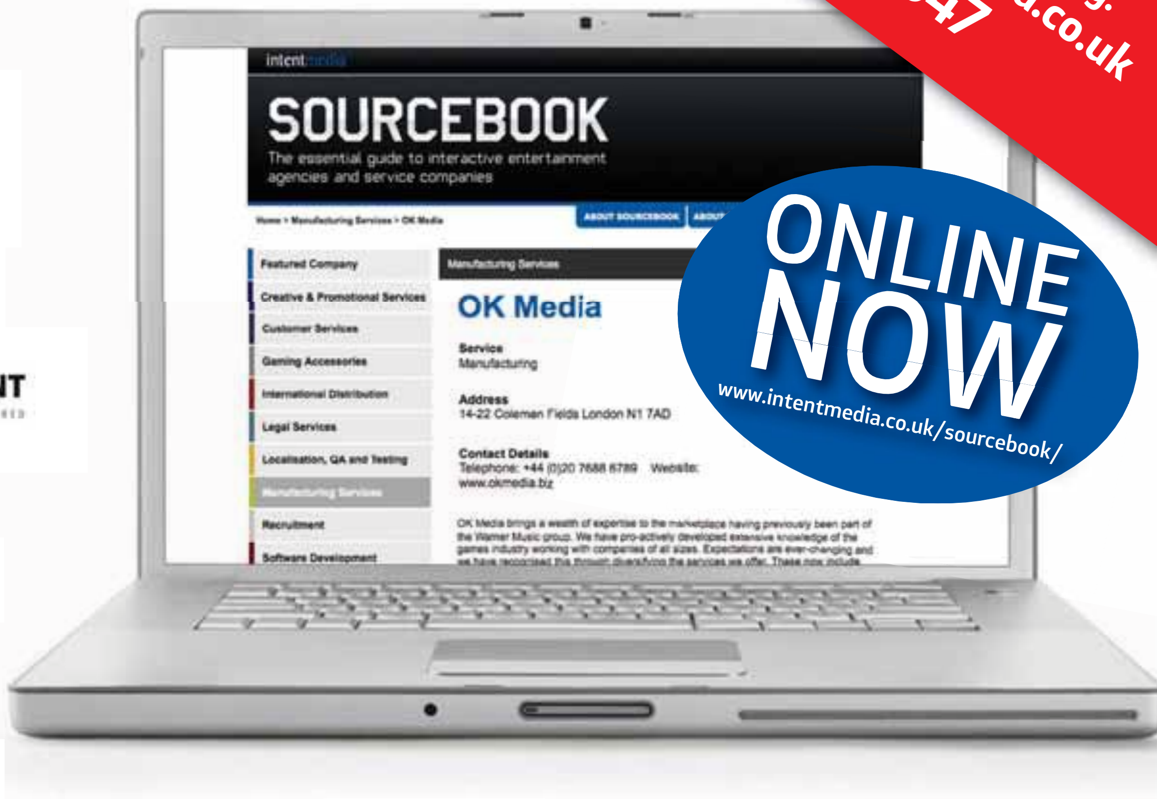

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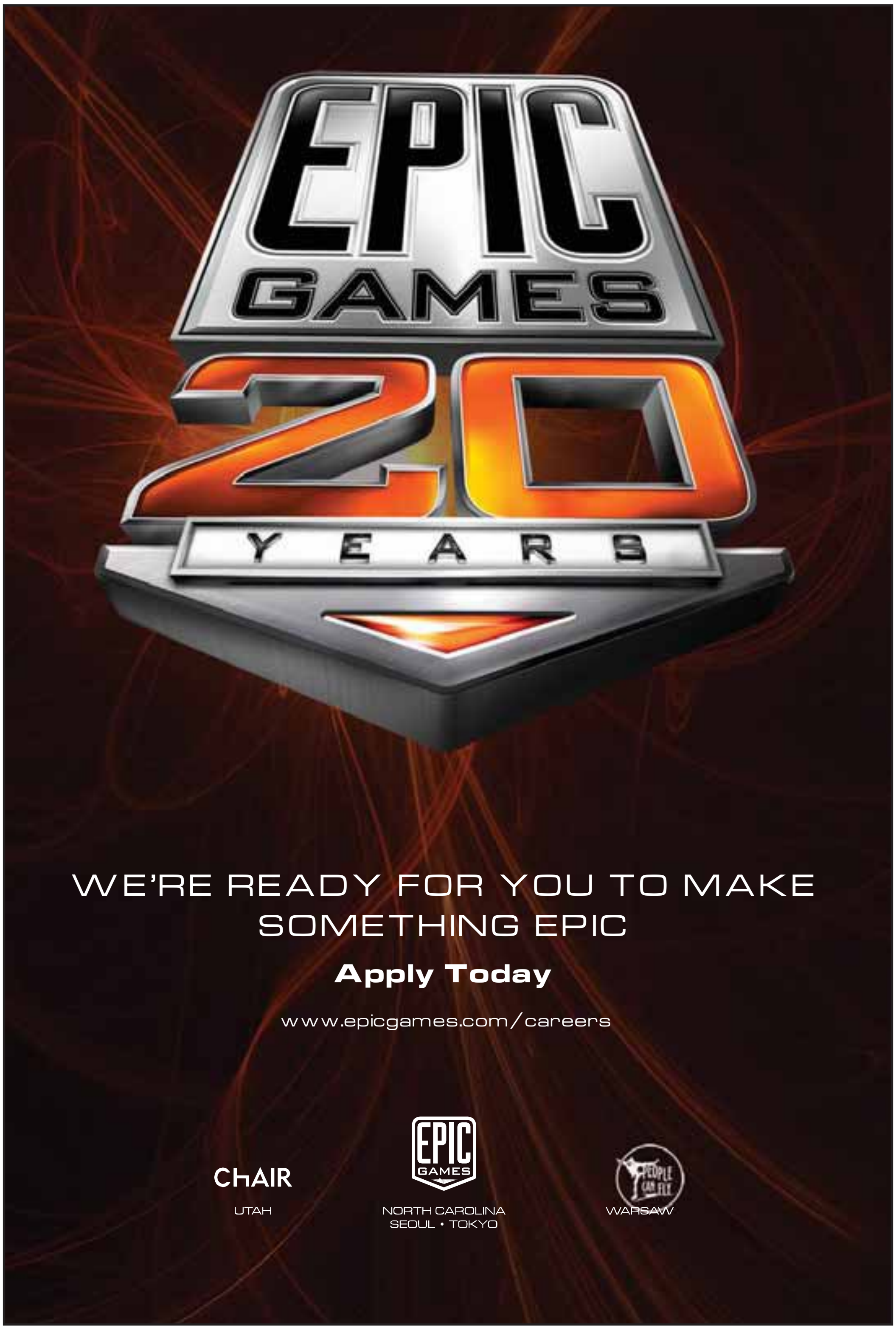
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Recruiter Hot Seat

We speak to Massive Entertainment's **Robert Nyberg** about how developers can break into the industry, and the benefits of working in Sweden's games hub

What makes Massive different from other development studios?
I am not sure we are very different. We are motivated by a passion for games, we have a strong commitment to quality, and we work hard to make the best possible experience that a gamer can have. I am pretty sure that many other developers would describe themselves this way.

But, we do work by a few principles that we constantly strive to retain. We consider the game to be the ultimate judge; this means that only the game can decide the quality of an idea, and for the game to decide we need to be able to play it; this in turn leads to the fact that we always have to have a playable build.

Another thing that we constantly challenge ourselves with is quality, we consider ourselves to live and die by quality, so quality overkill is our motto, and if you think you can push it a little further, you should do so.

I must also add that as an employer, we view the satisfaction of our individual employees as a key to our success. We are in it for the long run, and we want people to feel fulfilled by their job. We provide a productive development situation, sometimes tailor-made to each individual, and we also offer a healthy work/life balance.

What other benefits are there for those who work at the studio?
I think the greatest benefit of working at massive is the co-workers. After that I would say the projects and how we run them. If we are talking about compensational benefits, we have a number of small perks, but one of the greatest is one that takes place at the start of an employment.

We will offer full relocation support if you move here from another country. We will help with finding an apartment, get the candidate through the visa process, assist with shipping costs and make sure you are entered into the health care system.

At first we didn't think much about this, it was just something we did, then we started realising the amount of work that goes into it, and how much it helps the new arrivals when they come to Sweden. I realise that this is probably a boring perk, but it holds real value, especially for families. And I almost forgot; a big perk is also the Ubisoft group and all the contacts and wealth of knowledge it brings.

Who is the best interviewee you've had, and what made them stand out?
I have had many good interviews, but singling out one as 'the best' would be unfair to the many great individuals I have meet through the years.

However, I can generally say that those that are generous with themselves, honest, and passionate about what they do and are not afraid to show it make a good impression.

And what about the worst interviewee you've had?
Oh, there are probably many 'bad interviews', but in general a bad

BIO
Name: Robert Nyberg
Title: Talent Acquisition Manager
www.massive.se

> ***"We view the satisfaction of our individual employees as a key to our success."***
>
> Robert Nyberg, Massive

Photo credit: Gotland University, GAME

GET THAT JOB

We ask specialists how you can score that promotion or move to a new role

THIS MONTH: **ARTIST**

"For every available artist position, we receive hundreds of applications, so your portfolio has to stand out to survive our efficient sorting process.

"It needs to be simple, concise and easy to navigate, the quicker and easier we can see your body of work the better.

"Specialise. If you're applying for a character artist position, have only characters in your portfolio. If you're applying for an environment position, have only environments.

"Be creative. It may seem obvious given our profession, but I've lost count of how many unimaginative portfolios I've seen filled with generic dumpsters and props."

Pawel Wojs, Lead Battlefield Artist,
The Creative Assembly

SIX-SECOND STUDIO SPOTLIGHT

SERIOUS PARODY
SP

- Serious Parody was formed back in 2010 by Daniel Hinkles and Jason Noble
- The studio is self-funded and currently has eight members on its development team
- The developer has raised £1 million in investment to open a second studio in Dundee, creating 18 new jobs
- The developer is currently at work on a 'huge' console game, but is keeping details of the project close to its chest
- CEO Dan Hinkles says he is looking to further expand the studio and become a major player in the games industry
- Previously the team has created iOS sports game *Wrestling Manager*

interview is one where the candidate is trying to put him or herself forward as someone different.

What advice would you give for somebody wanting a successful interview with Massive?
The greatest thing you can do when showing up to the interview is to bring yourself. Show us who you are. We like people that are genuine. So what if you have quirks? It's OK to love *Morrowind* to the point you can hardly stop talking about it.

If you are really into some aspect of game programming or passionate about animating animals, or if you find inspiration in architecture and music, tell us. So the best thing you can do is to be yourself.

Massive's a fairly large studio. Is there much staff community?
Yes there is. We have football nights, board game evenings, guilds for the different disciplines, movie nights, parties and all sorts of other stuff happening here.

We encourage this, and we also have some days each year set aside for activities relating to this.

What fields in particular is Massive recruiting from in the coming weeks or months?
We are always interested in talent across the board. But at the moment we are particularly interested in finding animators, online programmers and character artists.

And how many people are you looking to hire?
During the coming nine months we are looking to expand our teams with another 30 people.

> ***"So what if you have quirks? It's OK to love Morrowind to the point you can hardly stop talking about it."***

What makes Massive's home city of Malmö a great place to live and work for your staff?
Malmö is a very relaxed city with a lot of the services you typically see in larger cities.

The things that I think stand out are the seaside location and the beach we have here, which really comes to life in the summer.

The short distances between the workplace and home too; I have a just a ten-minute bike ride to work, is also great.

And when Malmö is not enough you have Copenhagen right across the bridge and the world just outside your door with Copenhagen International Airport a 20-minute train ride away.

So, in essence the comfort of a small town while having the advantages of a big city is what makes it great to live in Malmö.

NEW STUDIO ALERT!

THE FOUNDER of UK developer Doublesix has formed a new studio in Guildford called Born Ready Games.

The new company has secured funding for its projects with mutual agreement of its former publisher and Doublesix parent company Catalis SE. It has also taken over development rights for upcoming space-action title *Strike Suit Zero*, expected to release this Autumn on PC.

The new studio consists of many former Doublesix staff, and will work on developing games for all platforms.

"Our new independent games studio is dedicated to making *Strike Suit Zero* the best game it can be" said Born Ready CEO James Brooksby.

"It's a labour of love for everyone involved and we are very happy to be able to finish and self-publish it under the new banner of Born Ready.

"We are at the birth of an exciting new development studio packed with talented people who all share the company's grand ambitions."

Catalis SE CEO Jeremy Lewis added: "We wish Born Ready Games and *Strike Suit Zero* all the best, and are looking forward to seeing the result of a project we have been so closely involved in".

MOVERS AND SHAKERS

This month: Thumbstar, PlayJam, Testronic Labs, We R Interactive

THUMBSTAR Newcastle-based mobile publisher Thumbstar has hired former Ubisoft game localiser and PR representative **KIRSTEN KEARNEY** as its digital communications manager.

Responsible for running the company's communication operations worldwide, Kearney has previously worked at One Thumb Mobile as communications director, whilst she has also been a freelance journalist for the last ten years.

"I have had the pleasure of working with Kirsten previously and I couldn't think of anyone better to take on the role as the voice of Thumbstar across the digital and social space," said marketing director Phil Brannelly.

"Dialogue with our consumers is absolutely key to Thumbstar's future success and Kirsten's wealth of experience in journalism and communications will prove invaluable in achieving this. Coupled with the appointment of Indigo Pearl, our communications strategy is well under way for our future launches."

PLAYJAM Criterion co-founder **ADAM BILLYARD** has joined UK Smart TV games outfit PlayJam as its chief technology officer.

Billyard will be tasked with leading the company's technological development as well as playing a part in its future direction and growth.

As well as founding *Burnout* developer Criterion, which also created graphics rendering tool Renderware, the new PlayJam CTO has also worked at EA for four years in a similar role.

"Adam joins a long list of industry veterans supporting PlayJam's absolute belief that Smart TV will emerge as one of the most important games platforms over the coming years." said Jasper Smith, CEO. "His extensive experience will help ensure PlayJam maintains its already significant momentum and position as the dominant games service in this space".

TESTRONIC LABS QA firm Testronic Labs has been busy expanding its games division by recruiting a new director and sales specialist for its games services branch in London.

BECKY WALKER (left) has joined the company as director of business development for games services, where she will focus on growing the firm's games business around the world as well as acting as customer service liaison.

"Becky brings a unique understanding of quality assurance in each market sector, and we see it as a terrific benefit to our customers," said Testronic VP of operations for games services Alastair Harsant.

"Whether it is consoles and PCs, social gaming, MMO, or mobile gaming, Becky has the experience and knowledge this industry demands. She is a great asset to our team."

MARTIN RASMUSSEN (right), meanwhile, has been promoted to Scandinavian sales specialist, and will manage sales for the firm's North European region.

"At Testronic, our primary goal is to exceed our clients' expectations," said Harsant. "With Becky and Martin on our team, we are even better positioned to achieve our aims. We are very happy to have them."

WE R INTERACTIVE Social games publisher We R Interactive has recruited **ERIC EMANUEL** as its first operations director.

Emanuel will report to studio CEO David Rose, and will be in charge of product quality and service delivery across the company's growing portfolio of titles. His role will cover the firm's IT, QA, customer service and localisation functions.

Before joining up with We R Interactive, Emanuel worked at NCsoft for five years as VP Strategy of Europe, where he was responsible for building development and strategy for NCsoft's online business, games data analysis and reporting.

"The company is at a pivotal point in its development as we expand our product portfolio and publish in multiple languages," said We R Interactive CEO David Rose.

"Eric's wealth of experience made him the natural candidate for this key hire and we're delighted to have him on board."

IDEAWORKS3D Ideaworks3D, which created cross-platform development environment Marmalade, has made a coup by hiring former EA VP and GM Harvey Elliott as MD and COO.

The industry veteran has assumed overall leadership of all teams across Marmalade and Ideaworks3D.

"Marmalade has evolved dramatically over the past year," said Ideaworks3D CEO Niall Murphy. "With the successful launch of Marmalade 6.0 SDK, and the extension of support to include HTML5, we continue to affirm ourselves as the world leader in cross-platform technology. Harvey's proven track record in developing and delivering complex products across multiple territories will be a great asset."

Service & technology recruitment hot seat

We speak to Unity recruiter **Dana Ramnarine** about working for the engine outfit

Why should developers work for Unity as opposed to other middleware companies?

We have an extremely open and meritocratic culture, we're on a long-term mission that's fundamentally good, and we have some of the best engineers in the world working on a rich, elegant, and extremely popular product used by over a million of the world's most creative and smart developers.

We eschew hierarchy, and encourage every member of the Unity team to be his or her own one-person ninja army: fast, able to act independently or in small groups, highly trained and deadly.

And finally, because we work for the very long-term and force ourselves to think big. We're extremely robust financially, and our approach of solving problems for the long-term means that we don't sweep our problems under the carpet, and are one of the best-run companies in the industry.

What kind of perks do you offer to your employees?

The core of our perks is our free and creative environment, and how engaged we are with our community and each other. Our yearly developer conference Unite moves around to different cities and is attended by the entire company, and all our engineering staff come together for our quarterly developer camps, which we call NinjaCamp.

The team takes time to learn and support each other, and we have attracted people from all over the world with unique disciplines and skill sets to our offices – it's truly a melting pot for creativity and innovation.

How many staff are you looking to take on this year, and in what kind of positions?

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Epic Games

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epicgames.com

Despite being famed as a developer of rather serious games, including the the *Gears of War* and *Infinity Blade* series, Epic's North Carolina HQ famously features it's own slide and climbing wall.

Bigpoint

Hamburg, Germany
bigpoint.net

Bigpoint's vast Hamburg studio is as bright and vibrant as any of Silicon Valley's famously swish studios, as *Develop* can attest to after a recent visit

SERVICES SPOTLIGHT

This month: **The Gorfaine/Schwartz Agency**

THE GORFAINE/SCHWARTZ AGENCY, now in its 30th year, specialises in providing the entertainment industry with musicians to compose scores for games, films and TV.

Located in Burbank, California, over the last five years representing games music professionals has gradually become a larger focus for the organisation as the industry looks to create ever-bigger blockbusters on the scale of big movie productions.

"I believe that interactive entertainment is the entertainment of choice for the 21st Century, and as an agent, it is not only important to embrace this but to lead the way," says Gorfaine/Schwartz agent Cheryl Tiano.

"Additionally, our composers really enjoy the process of scoring games. The people they're dealing with are often extremely creative so it is an amazing collaborative experience."

Tiano says it now represents a plethora of "highly acclaimed" musical artists, producers, songwriters, supervisors and editors, all offering their expertise to game productions.

Some of the composers currently working with the Gorfaine/Schwartz Agency include *Far Cry 3* and *Modern Warfare 3* musician Brian Tyler, *Assassin's Creed* series composer Jesper Kyd and *Bioshock's* Garry Schyman.

Tiano claims that with such experienced musicians, the agency can provide studios with "world-class" music from artistically diverse composers from around the globe.

The Gorfaine/Schwartz Agency also helps to initiate introductions between composers and developers, negotiating deals while addressing contractual concerns and production issues.

She says the company also works on creating budgets for the projects that are suitable to the studio's aims and the needs of the composer, whilst looking to build long-term creative relationships for everyone involved.

Tiano believes that providing such a service is hugely important for the industry, as music in games is now "extremely important", as player's demand more from their experiences, particularly with regard to the high budget productions that continue to fascinate huge numbers of players.

"The quality of the score and of the overall music production is essential as the gamer is constantly hearing the music as they play the game numerous times," she says.

"Additionally, as the visual elements become ever more stunning, it is essential that the music also be on that same standard of excellence."

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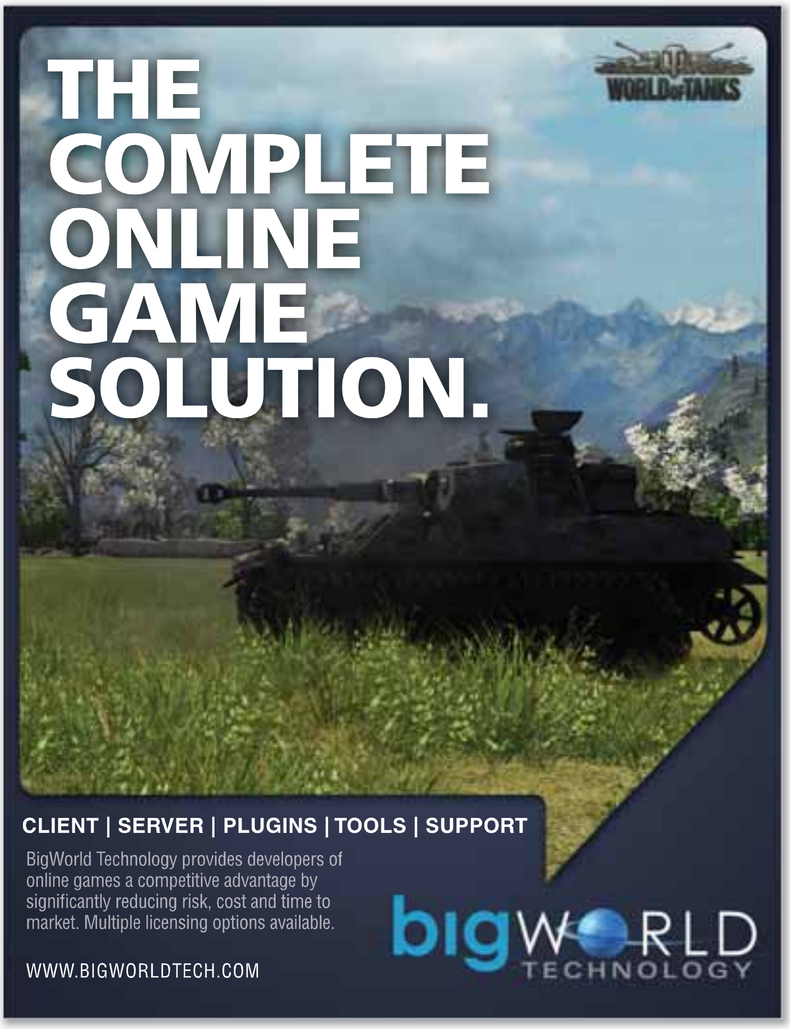
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TOOLS SPOTLIGHT

This month: **Cloakworks**

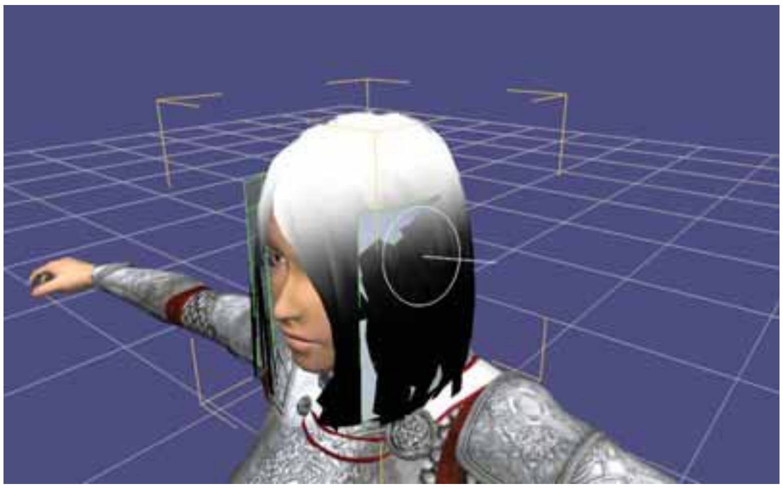
FORMED AS RECENTLY as 2009, Chicago-based middleware firm Cloakworks is responsible for creating cloth simulation technology Shroud.

The tool focuses specifically on simulating clothing on game characters, enabling developers to add dynamic interactive cloth, clothing and other soft-body physics effects to games and real-time applications.

"That applies to the runtime where the architecture and the simulation algorithm itself are designed to run efficiently and on the wide variety of hardware that developers are targeting without dragging the game's frame-rate down," explains Cloakworks CEO Joe Van Den Heuvel.

"And it applies to the tools that allow you to change settings and see the results right away so you can iterate rapidly to get the look you want."

Shroud also includes a run-time module that the outfit says can be added to any game engine for PC, Mac, consoles and mobile. It has also been released as a plug-in for Unity.



"Shroud helps developers add an extra layer of polish by taking their existing characters and turning their static clothing into physically simulated clothes that move and react realistically to what they're doing," he says.

"And it does it without killing performance or limiting the best features to certain platforms or vendor-specific hardware."

The tool was recently licensed by Trion Worlds for its fantasy MMO *Rift*, whilst it has also been used in the development of IO Interactive's upcoming third-person action shooter *Hitman: Absolution*.

The latest iteration of the clothing tool is 2.1, which introduced new multi-mesh support to make the setup process easier whilst also providing character artists with more options.

"Artists can now use completely different simulations to animate different parts of the same visual mesh, and with no seams in between," he says. "Each simulation can have different constraints, collision settings, and even gravity pulling in different directions.

"And the transition from one part to another is handled by simply painting the influence of the simulation directly onto the mesh."

Van Den Heuvel says Cloakworks has also made it easier for developers to share content created through Shroud, with users able to convert between different units and coordinate systems back and forth between XML and binary formats for various platforms.

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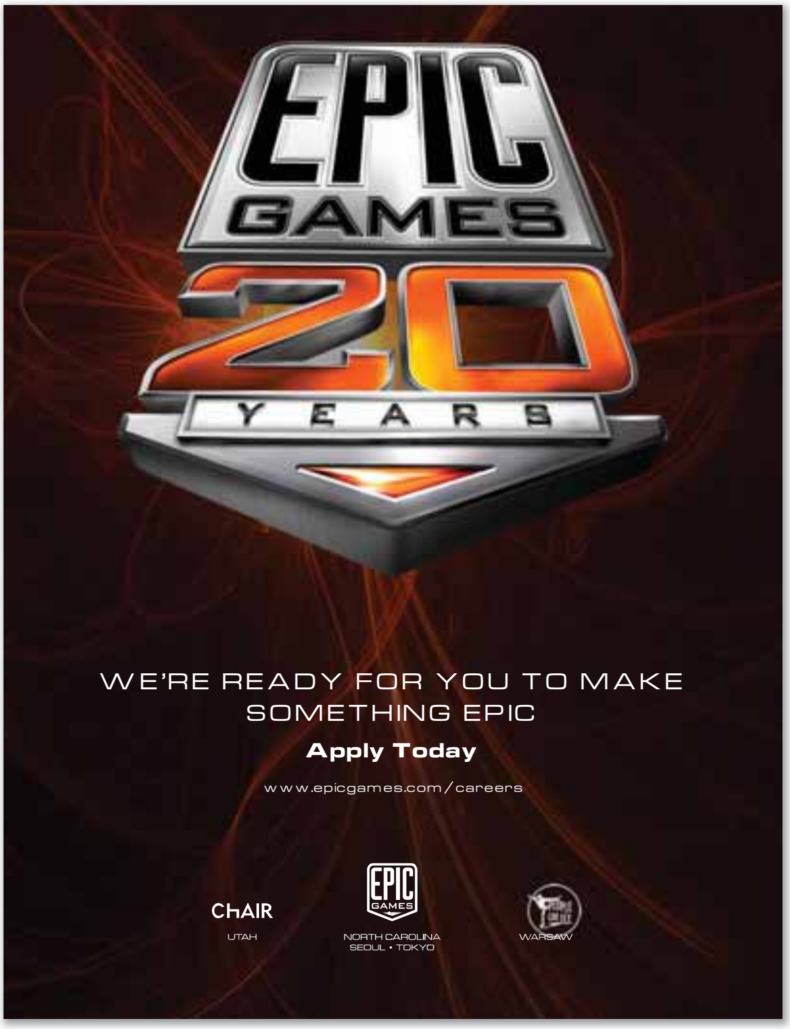

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TRAINING SPOTLIGHT

This month: **The Norwegian School of Information Technology**

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THE NORWEGIAN SCHOOL of Information Technology, based in Oslo, provides students with bachelor's degrees in subjects such as games design and programming, as well as other relative industry courses such as 3D graphics, mobile app development, interactive design and E-Business.

Assistant professor Charles Butler says that the games design program is very hands-on, with students taught design theory, which is then immediately applied to the creation of games and content. He adds that the curriculum also exposes students to a significant amount of mathematics and physics, as well as AI and graphics programming.

To help students achieve a good education, Butler says students start the courses with a core set of IT skills including Java and database management, and then move into game development with a variety of technologies including Flash, Unreal Development Kit and Unity.

Students are also free to choose their own technology on a number of projects, while pupils are also offered the opportunity to learn to use 3DS Max or XNA.

With the games industry in constant fluctuation, and emerging trends such as mobile and browser taking the sector by storm, Butler says students must be prepared to enter a workforce that can be unstable even at the best of times.

"At the practical level, we endeavour to prepare them by creating a broad range of proficiencies throughout the program," he says. "By getting practical experience in a number of areas that are very relevant in the game industry – the creation of original games for external client companies, for example – the students become quite flexible and learn to pivot when necessary.

"Our graduates are able to pursue careers in any number of development spaces, including triple-A, mobile, social, and indie."

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Butler adds that the course also encourages students to learn how to program themselves, stating the flexibility he talks about stems from self-learning and self-improvement. He says that there are even occasions where course tutors will look to turn students away and make them find the answers themselves.

> ***“We prepare our students by creating a broad range of proficiencies throughout the program.”***
>
> Charles Butler, NITH

“With a game-focused program, a certain percentage of prospective students seem to see it as an easy and fun way to spend their time at university. However, that’s not an attitude that leads to success. It takes a fairly ridiculous amount of hard work.”

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Images courtesy of Criterion Games

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“The University of Hull have been a key partner for Criterion over the last 2 years, providing over 70% of our Graduate Engineering intake.” Paul Ross, CTO, Criterion Games

“After some years working as a programmer, I decided to attend the MSc in Games Programming at Hull University. It was probably the best investment of my life. Now I’m a programmer at an AAA studio.” Manuele Bonanno, MSc Graduate

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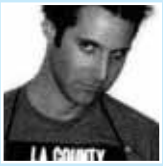
A sideways look at the games industry

THE INDUSTRY IN 140 CHARACTERS

A month in tweets by the industry elite



@Jason_Rubin
Lots of people saying "please save THQ because they make some of my favorite games". People, that's why I signed on.
(Jason Rubin, THQ)
June 3rd

@pottan
There's a lot of pointing and clicking in #*Diablo3* and it's certainly an adventure. What does that make it?
(Patrick Liu, DICE)
June 8th

@martinhollis
NintendoLand is the closest thing I've seen to a nod to Disney from Nintendo. Disneyland has had a huge influence, centrally *Super Mario 64*.
(Martin Hollis, games designer)
June 5th

@HIDEO_KOJIMA_EN
Going under the bridge Snake dived in *MGS2* tanker scene's opening. It's been 13 years?
(Hideo Kojima, Kojima Productions)
June 9th

@wilw
This is your man on the scene, Scoop Wheaton, reporting that there is nothing to currently report at #E3.
(Wil Wheaton, actor and, it seems, games journalist)
June 5th

@charltonbrooker
Had a thing published today bemoaning poor female characters & immediately lots of comments from men sobbing that they're misrepresented too.
(Charlie Brooker , celebrity journalist)
June 18th

@numberless
I want to start a Kickstarter Project called "I Backed 'I Backed Kickstarter' on Kickstarter".
(Scott Jon Siegel, Popcap)
June 5th

@wonderlandblog
Dear @EU_Commission. This Science, It's a Girl Thing, the pink lipstick logo, the sexy wiggles, the stilettoes. No.
(Alice Taylor, MakieLab)
June 22nd

@majornelson
The Friday after coming home from #E3 is a strange combination of exhaustion and relief.
(Larry Hryb, Microsoft)
June 8th

@SpiltMilkStudio
If you make a game for 3DS that'd be better with two sticks you're an idiot. The hardware is what it is. Design for it. #design101
(Andrew John Smith, Spilt Milk Studio)
June 22nd

AN OPEN MIND

CLIFFY BLEZINSKI

Epic's less than shy games designer tells Xbox360achievments.org why games are becoming too easy

72% Easy video games
12% Difficult video games
16% Systems interacting with systems

Telling Xbox360acheivements.org how he feels about the current generation of games and their difficulty:
It feels like in this current console generation that we've taken a lot of steps to grow the audience, and what I think's happened is that the games have become more linear and easier, so it feels like a lot of quick-time events.

More on the matter, and on being challenged by systems:
The more I play games like that the more I turned off to them and just want to get back to systems interacting with systems, and get back to a game that, you know; when was the last time a game really challenged you and asked something of you, right?

And finally, on the kind of difficult games Cliffy B likes:
There's a reason why *Demon Souls* and *Dark Souls* have taken off lately. It's because they really require you actually try.

IT FIGURES : E3 2012

This year's E3 welcomed **45,700** video game industry professionals, investor analysts, journalists, and retailers through its doors, hosting attendees from **103** countries. The Entertainment Software Association event filled **30,000** total hotel room nights across Los Angeles, and generated an estimated **$40 million** in revenue for the city. Over **200** exhibitors showed their wares at the event, and according to the organiser, **'billions'** of consumers absorbed news from the show. Some **300** buyers from retailer stores worldwide participated in E3's VIP Retailer Program. The **three-day** show generated **55** news stories for *Develop's* website.

NEVER STOP PLAYING.

THE DEVELOP DICTIONARY

Our new guide to games development terminology brings you the best and the worst of industry jargon, starting of course, with the letter A

AAA (abrv.) – *The wrong way to format 'triple-A'. What is triple-A? It's a game that's better than a 'double-A' release, but not as good as a 'quadruple-A' title. And, yes, we really have received press releases that use 'quadruple-A' like something that exists.*

Action Game (noun) – *Apparently a genre, but so loose fitting and subjective its merits as a genre classification are arguably redundant, unless you consider any game with any kind of action in a genre. See also:* ***Adventure Game***.

Adventure Game (noun) – *A game genre that really used to apply to 'point 'n' click games (i.e., the Monkey Island series) but now seems to be applicable to any kind of game with a narrative. See also:* ***Action Game***.

Affordance (noun) – *A system of predictable functionality that should always be applied to your game's interface; for example, the implication of a certain stick movement should make sense within a system that encourages the player only to consider interaction supported by the interface.*

Aliasing (noun) – *The simple process of image pixilation upon display of said image.*

Alpha-beta pruning (noun) – *A routine within the remit of artificial intelligence that evaluates a potential move only in circumstances where that move's possible outcomes are equal to or better than a previously considered move*

Anchor point (noun) – *The point at the start or end of a Bézier curve (you'll have to check back next month for that one).*

Ancillary rights (noun) – *Keeping hold of these lets you profit from merchandise and other products derived from your game. In a post-Moshi Monsters world, it's something you shouldn't ignore*

ASIC (acronym, noun) – Application Specific Integrated Circuit. A non-versitile hardware chip designed for a very specific task

Asynchronous gaming (noun) – A way of making a game hugely compelling for a few days, before users lose interest and rarely return.

Asymmetrical objectives (noun) – *In game design, a pair of non-identical objectives for a pair of players that force those usesr to meet different criteria to progress in within the game system*

Attract mode (noun) – *Remember arcade cabinets? When the game would run a demo mode to showcase how to play a game and what it offered, in an attempt to tempt consumers to part with small amounts of cash, it was in attract mode. Relevant today because numerous mobile and social games need to show everything to a player in a few seconds.*

Auto-aim (noun) – *A feature that makes games a little bit too easy, but much more rewarding for low-to-mid skilled players (i.e. Develop editors).*

Auto-patcher (noun) – *A component piece of software that will help you force updates upon your users, whether they like it or not.*

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develop FORWARD PLANNER

AUGUST 2012

Develop Awards 2012 Retrospective
We look back on this year's awards ceremony and tell you who the big winners were

BUILD Special Feature: Apps & Mobile Games Dev Tech
An investigation into the tools that underpin the increasingly important smartphone games space

Regional Focus: Sweden
We examine a sector that's home to some of the world's biggest hits and most distinct tools

Events:
Edinburgh Interactive 12 – August 9th to August 10th
GDC Europe – August 13th to August 15th
Gamescom – August 15th to August 19th

SEPTEMBER 2012

User Interface Tools & User Interaction
Touch-screens, motion controllers and gesture inputs have changed how gamers interact – but how have they changed how games are made?

BUILD Special Feature: Graphics & Rendering
An update on the tools and applications for cutting edge graphics and on-screen beauty

Regional Focus: Germany
We delve into the thriving development hub from one of Europe's most powerful economies

Events:
Develop Quiz – September 19th
Tokyo Game Show – September 20th to September 23rd

OCTOBER 2012

Start your own studio
Setting up on your own? We can help out with a range of features written by experts in business, finance and law

BUILD Special Feature: Character Animation
This head-to-toe guide examines what's new in the technologies that make game characters walk, run and save the world

Regional Focus: South & Latin America
We take a look at one of the most talked about, and least explored emerging markets

Events
Apps World Europe – October 2nd to October 3rd
MCV / Xbox 360 pub quiz – October 4th
GameCity 7 – October 20th to October 27th

NOVEMBER 2012

Regional Focus: Canada
Our yearly look at the games dev firms operating in British Columbia, Quebec and everywhere in between

Events:
Montreal International Game Summit - November 13th to November 14th

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THE FAQ PAGE: KIM SWIFT

Develop grills respected figures from the global games industry

Portal and Quantum Conundrum creator Kim Swift says she would like so see publishers taking more risks

Who are you and what do you do?
My name is Kim Swift, and I'm the creative director on *Quantum Conudrum*.

What are you working on right now, and at what stage is the project?
I am working on an unannounced project right now, and it's one that I can't really talk about, but it's very fresh. It's been underway for about a month. *Quantum Conundrum* is out; we've been wrapped up on that for around a month or two now, so we've submitted and we got our Steam release date, which was June 21st, so people are going to be buying it on Steam right now. We haven't got our launch dates for console – XBLA and PSN – nailed just yet, but it should be pretty soon.

What aspect of *Quantum Conundrum* do you think will impress people most?
I hope the humour of it will impress people most. What I really love about our game is that is a direct reflection of our sense of humour and the atmosphere of the team. We're all a bunch of really weird, silly, quirky and odd human beings.

What was the first video game you ever played, and when was that?
I have no idea. Something on a Nintendo; I was really young, maybe three or four.

What was the most recent game you played, and did you enjoy it?
The most recent game I played was actually *Touch My Katamari* on the PS Vita, and I did enjoy it. In fact I beat it the other night.

Do you have a favourite game ever?
Oh yes. Without hesitation I can say it is *Legend of Zelda: A Link to the Past*.

> ***"I miss the '90s where it was OK to have a stylised game. Just because a game has a unique, colourful art style it doesn't mean that it is for kids."***

What area of the games industry need more investment?
That's tricky. I would like to see publishers take more risk in investing in new ideas. Square Enix US has done that for us. I love sequels and I love reabsorbing myself in an atmosphere I've enjoyed in a previous game, but I also like seeing new stuff too. The downloadable space is where we see the most new IPs and fresh ideas today.

What disappoints you about the industry?
The one thing that actually disappoints me, because I get I get asked it all the time, is the question '*Quantum Conundrum* is cartoony, so it's a kids game, right?'. I miss the nineties where it was OK to have a stylised game and it was the thing to do. Just because a game has an interesting or unique art style and is colourful, it doesn't mean that it is for kids. In the same vein of thought I'm also disappointed in us as adults underestimating children, because they are better game players than we think they are. I remember playing *Battletoads* as a kid, and I don't know if you've played it, but holy crap, it is so hard. And yet as a kid I thought it was amazing.

How many hours a week do you get to spend playing games?
Not a lot. Usually I have to make time to play games. I actually really love smaller games, because I don't get a lot of time to play. I would say maybe on average four hours a week, most of which is done at lunch hour or at weekends.

Of all the game's you've been involved in, what is your favourite, and why?
Honestly, I know it sounds cheesy, but it's this one. I really love *Quantum Condundrum*, and I had so much fun making it. I love my team mates so much, and coming to work with them is a pleasure and an honour.

Which game would you liked to have worked on?
Some of those old school Nintendo games. I think they would have been a lot of fun. I adore Miyamoto's work, and I think it would be amazing to work with him or meet him.

What do you do in your spare time that isn't related to games?
I cook, snowboard, longboard – and I love skydiving and kickboxing. I like extreme, weird sports in general. It's a real escape, but I do break myself a lot. I want to start capoeira next.

What is your favourite book, movie, TV show and album of all time?
Book would be *Hitchhikers Guide to the Galaxy*, movie would be *Princess Bride*, album would be Bad Religion's *Against the Grain*, and TV show? This is a bit random, but I really liked *Gargoyles: The Animated series*.

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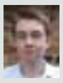

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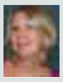

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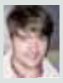

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